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PROGNOSIS OF SUBARACHNOID HEMORRHAGE

AND ITS RELATION TO LONG TERM MANAGEMENT

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Following the definition of the syndrome of subarachnoid hemorrhage by Symonds[1] in 1923, its recognition has presented little difficulty. Excellent descriptions of the syndrome and summaries of the literature have been presented by Strauss, Globus and Ginsburg,[2] Sands[3] and Dandy.[4]

Subarachnoid hemorrhage is responsible for 2 per cent of sudden deaths.[5] It comprises 7 per cent of all cerebral vascular disease and approximates in frequency parenchymatous cerebral hemorrhage (8 per cent).[6] The most common cause of subarachnoid hemorrhage is rupture of intracranial arterial aneurysms. Among others the studies of Bremer,[7] Forbus,[8] McDonald and Korb,[9] Richardson and Hyland[10] and Magee[11] have contributed much to our knowledge of the formation, occurrence and natural history of intracranial arterial aneurysms and their role in the production of subarachnoid hemorrhage. Dandy[4] has recently reported his pioneer work in the surgical treatment of intracranial arterial aneurysms.

A review of the available information in the literature and the study of additional patients from the New York Hospital has been undertaken with the aim of ascertaining the prognosis and formulating the long term management of patients with subarachnoid hemorrhage.

From the New York Hospital and the Departments of Medicine (Neurology) and Psychiatry, Cornell University Medical College.

1. Symonds, C. P.: Contribution to the Clinical Study of Intracranial Aneurysms, Guy's Hosp. Rep. **73**: 139, 1923; Spontaneous Subarachnoid Hemorrhage, Quart. J. Med. **18**: 93, 1924.
2. Strauss, I.; Globus, J., and Ginsburg, S. W.: Spontaneous Subarachnoid Hemorrhage, Arch. Neurol. & Psychiat. **27**: 1080 (May) 1932.
3. Sands, I. J.: Diagnosis and Management of Subarachnoid Hemorrhage, Arch. Neurol. & Psychiat. **46**: 973 (Dec.) 1941.
4. Dandy, W. E.: Intracranial Arterial Aneurysms, Ithaca, N. Y., Comstock Publishing Company, Inc., 1944.
5. Ayer, W. D.: So-Called Spontaneous Subarachnoid Hemorrhage, Am. J. Surg. **26**: 143, 1934.
6. Stevenson, L.: Vascular Diseases of the Brain, in Nelson's New Loose Leaf Medicine, New York, Thomas Nelson & Sons, 1936, chapter 7, p. 215.
7. Bremer, J. L.: Congenital Aneurysms of the Cerebral Arteries, Arch. Path. **35**: 819 (June) 1943.
8. Forbus, W. D.: On the Origin of Miliary Aneurysms of the Superficial Cerebral Arteries, Bull. Johns Hopkins Hosp. **47**: 239, 1930.
9. McDonald, C. A., and Korb, M.: Intracranial Aneurysms, Arch. Neurol. & Psychiat. **42**: 298 (Aug.) 1939.
10. Richardson, J. C., and Hyland, H. H.: Intracranial Aneurysms, Medicine **20**: 1, 1941.
11. Magee, C. G.: Spontaneous Subarachnoid Hemorrhage, Lancet **2**: 497, 1943.

INCIDENCE ACCORDING TO AGE AND SEX

Forty-six patients at the New York Hospital with subarachnoid hemorrhage are being studied. Postmortem evidence of subarachnoid hemorrhage, operative visualization or xanthochromic cerebrospinal fluid with blood demonstrated by lumbar puncture were the criteria for inclusion. Neonatal and traumatic hemorrhages have not been included.[12]

There were 23 females and 23 males. The age distribution is given in table 1. Age and sex distribution were essentially similar to that reported by McDonald and Korb.[9]

"RECURRENT HEADACHES," "MIGRAINE" AND SUBARACHNOID HEMORRHAGE

Seven (15 per cent) of the New York Hospital patients had definite migraine, and 12 (26 per cent) had periodic, recurrent headaches both unilateral and bilateral, for many years. The incidence of "frequent and severe" headaches of all types in a cross section of the healthy population has been found to be 9 per cent.[13] Migraine and "recurrent headaches" of many years' standing occur in from 10 to 41 per cent of persons with subarachnoid hemorrhage and aneurysm (Goldflam,[14] Richardson and Hyland,[10] New York Hospital series and Magee[11]).

Adie[15] and Dunning[16] have postulated the occurrence in the course of migraine of small cranial vascular accidents associated with cerebral infarcts. It is possible that some of the patients considered here are in that category. No further information is available, and the matter has been dealt with extensively elsewhere.[16]

PRECIPITATING AND PREDISPOSING FACTORS

The majority of New York Hospital patients were engaged in ordinary activity when rupture took place. Two patients were having sexual intercourse when the attack occurred. Magee[11] and Richardson and Hyland[10] have noted excessive activity to be associated with rupture only rarely.

One patient who died had cirrhosis of the liver with bleeding tendency, and 2 patients who lived had syphilis. No premonitory signs which could definitely be considered to precede bleeding were noted.

Five of the New York Hospital patients had elevated blood pressure and at least 3 had definite hypertensive

12. It is to be emphasized that this study is concerned with subarachnoid hemorrhage. Patients with aneurysms detected at operation and autopsy but not associated with subarachnoid hemorrhage have not been included.
13. Weider, A.; Mittelmann, B.; Wechsler, D., and Wolff, H. G.: The Cornell Selectee Index: A Method for Quick Testing of Selectees for the Armed Forces, J. A. M. A. **124**: 224 (Jan. 22) 1944.
14. Goldflam, S.: Beitrag zur Aetiologie und Symptomatologie der spontanen subarachnoidalen Blutungen, Deutsche Ztschr. f. Nervenh. **76**: 158, 1923.
15. Adie, W. J.: Permanent Hemianopia in Migraine and Subarachnoid Hemorrhage, Lancet **2**: 237, 1930.
16. Dunning, H. S.: Intracranial and Extracranial Vascular Accidents in Migraine, Arch. Neurol. & Psychiat. **48**: 396 (Sept.) 1942.

vascular disease. Sahs and Keil,[17] Ohler and Hurwitz [18] and Wilson, Rupp and Bartle [19] report similar findings. Only 5 of the 30 patients who recovered had elevated blood pressure.

SYMPTOMS

The symptoms included sudden violent headache, dizziness and vertigo, vomiting, drowsiness, stupor and coma, stiff neck and pain in the back of the thighs and legs, tightness of these areas, sweats and chills. Convulsions occurred in 17 per cent of the New York Hospital patients, in 9 per cent of Richardson and Hyland's [10] and in 12 per cent of Magee's.[11] Low back pain was a striking feature in 3 patients, an observation previously reported by Savitsky and Strauss [20] and Magee.[11]

TABLE 1.—*Age Distribution of Forty-Six Patients*

Age	Number of Patients
Under 20	2
21-30	5
31-40	8
41-50	19
51-60	8
61-70	3
71-80	1

Headache was fronto-occipital, fronto-ocular, fronto-temporal, occipital and sometimes generalized. It was described as a feeling of a sudden snap in the head followed by intense throbbing ache. Sudden onset of an extremely high intensity pain, chiefly in the back of the head, was most common. Not one of these symptoms was of any prognostic value.

SIGNS

The signs were fever, occasionally coming on twenty-four hours or more after the accident and lasting for over a week, stiff neck, Kernig sign, third nerve palsy, delirium, hemiparesis, other evidence of corticospinal tract disease and fundal hemorrhage. (This may be of value in localizing an aneurysm if found in only one eye.[4] However, in 1 instance [New York Hospital series] a single hemorrhage in one eye was not associated with a demonstrable aneurysm, although subarachnoid hemorrhage was found.) In 2 instances when localizing signs were present an aneurysmal source of bleeding was not found at autopsy. No prognostic information could be gained from the signs. Many of the patients who fully recovered lost consciousness and had convulsions at the onset of the illness.

THE DEMONSTRATION OF CEREBRAL ANEURYSMS

Of the 18 New York Hospital patients with subarachnoid hemorrhages who died, 15 died as a result of subarachnoid hemorrhage, and postmortem examinations were done on 11. These examinations were carefully performed, but no special dissections were made. In 5 of these 11 aneurysms were demonstrated. The remaining 6 patients had subarachnoid hemorrhage with no demonstrable source of bleeding. One of the latter 6 had "cirrhosis of the liver with bleeding tendency." Four of the 5 patients with aneurysm had localizing signs during their illness due to cranial nerve, cerebral or fundal damage. One patient with localizing signs showed no source of bleeding at autopsy, and 3 patients with localizing signs had negative arteriograms. In addition, aneurysms were surgically visualized in 5 patients with localizing signs and positive arteriograms. In short, in 16 patients with subarachnoid hemorrhage exposure of the cerebral vessels revealed aneurysms in 10.

Ayer [5] states that autopsies on 14 patients with subarachnoid hemorrhage revealed aneurysms in 14. Magee [11] reported 43 instances of aneurysm in 58 postmortem examinations on his patients with subarachnoid hemorrhage. Ohler and Hurwitz [18] found no aneurysms in 5 postmortem examinations on their patients. Richardson and Hyland [10] reported aneurysms in 27 of 33 autopsies on such patients.

When, in the presence of subarachnoid hemorrhage, localizing signs occur, an aneurysm is more likely to be found, but localizing signs do not make it certain that an aneurysm will be found. On the other hand, in none of the New York Hospital patients with aneurysm (who could be examined) were localizing signs absent.

ARTERIOGRAMS

Ekström and Lindgren [21] found in 35 postmortem examinations on patients who had received thorotrast for cranial arteriography that 21 had thorotrast emboli in small vessels. In 6 of these cerebral infarction was evident. Peet and List,[22] using thorotrast, had no accidents or sequelae after arteriography in a series of 38 patients over a two year period. Moreover, the later use of diodrast has not been associated with obvious complications, although postmortem studies have not been done. Local sensations and vasomotor reactions have occurred but have not been of serious proportions. Nine of the New York Hospital patients had arteriograms, and aneurysm was demonstrated in 5. Thirty-five per cent diodrast was used, and all of the arteriograms were done without mishap.

TABLE 2.—*Details of New York Hospital and Magee's Series*

	New York Hospital Series		Magee's Series (12)	
	Number	Per Cent	Number	Per Cent
Total number of patients	46		150	
Patients who died in first attack	5	11	52	35
Patients with recurrent attacks	24	52	50	33
Patients who died in recurrent attacks	10	22	32	21
Patients surviving without specific treatment	31*	67	66	44
Number of Weeks from First Attack to Recurrence	**Number of Cases**	**Number of Deaths**	**Number of Cases**	**Number of Deaths**
1	6	0	4	3
2	8	4	9	5
3	2	2	12	8
4	3	2	7	7
5	0	0	4	1
6	1	1	4	2
7	0	0	3	1
8	0	0	0	0
Over 8	4	1†	7	5

* One died two years later of a pulmonary infarct. One died within the first year after the initial hemorrhage, of unknown cause. One died three years later of unknown cause.
† Five years after first attack.

PROGNOSIS

Fifteen of the 46 patients of the New York Hospital series died as a direct result of the subarachnoid hemorrhage. One died two years later of a pulmonary infarct, 1 died within the first year of unknown cause, and 1 died three years later of unknown cause.

17. Sahs, A. L., and Keil, P. G.: Subarachnoid Hemorrhage Caused by Ruptured Intracranial Aneurysm, Am. Heart J. **26**: 645, 1943.
18. Ohler, W. R., and Hurwitz, D.: Spontaneous Subarachnoid Hemorrhage, J. A. M. A. **98**: 1856 (May 28) 1932.
19. Wilson, G.; Rupp, C., and Bartle, H., Jr.: Ruptured Aneurysms of the Circle of Willis, Tr. Am. Neurol. A. **68**: 140, 1942.
20. Savitsky, N., and Strauss, I.: Sciatic Pain as Initial Sympton of Subarachnoid Hemorrhage, New York State J. Med. **43**: 868, 1943.
21. Ekström, G., and Lindgren, G. H.: Gehirnschädigungen nach cerebraler Arteriographie mit Thorotrast, Zentralbl. f. Neurochir. **3**: 227, 1938.
22. Peet, M. M., and List, C. F.: Arteriography in Intracranial Lesions, Tr. Am. Neurol. A. **68**: 113, 1942.

It will be seen from table 2 that of the 74 patients in Magee's and the New York Hospital series who had recurrences, 41 had them in the second to fourth week, and, of the 42 patients who died in recurrences, 28 died during this period.

Sequelae occurred in 19 of the 30 surviving New York Hospital patients, but evidence of gross structural neurologic disorder occurred in only 6. Magee [11] reports sequelae in 18 of 22 patients followed, but only 3 had evidence of gross structural neurologic disorder. Richardson and Hyland [10] report "severe residual symptoms" in 8 of 37 followed patients. In short, about 20 per cent of patients with subarachnoid hemorrhage exhibit significant sequelae. Sustained, chronic or recurrent headache persisting longer than two months following rupture of intracranial aneurysm with subarachnoid hemorrhage is rare in the New York Hospital patients who did not have headaches before the accident.

The New York Hospital recurrence rate was higher than Magee's,[11] and the death rate (39 per cent) was lower than his (50 per cent). The New York Hospital death rate was also lower than that of Ayer's [5] and of Ohler and Hurwitz's [18] series (50 per cent). This may be explained by the fact that the New York Hospital has no ambulance service, and probably many of the patients who die in the first attack do not reach the hospital. The fact that only 5 of our patients died in the first attack supports this conception. Sahs and Keil [17] reported that 18 of 64 patients (28 per cent) died and 41 of 120 of Sands's [3] patients died (34 per cent). At present we cannot help those who die in the first attack but must direct our efforts toward the survivors in preventing death from recurrent attacks of bleeding.

The 196 patients in the series of Magee [11] and the New York Hospital may be divided into two groups. The first group comprises those who died in the first six months after the first attack of bleeding. Fifty-seven, or 29 per cent, of the patients died in the first attack and may be waived from further comment because they cannot be helped by present methods. Forty-one, or 21 per cent, may be helped by operative procedures. These patients died in recurrent attacks within one year after the initial hemorrhage. Twenty-eight, or 14 per cent, of the patients died during the second to fourth week after the first bleeding. Five per cent died between the fourth week and the end of the first year. Procedures aimed at helping the patients in the first group must be instituted before or soon after the second week if the 21 per cent who die in recurrent attacks are to be saved. After the fourth week 14 per cent will have already died.

The second group consists of 45 patients who survived the first six months after the first episode of bleeding. This constitutes 23 per cent of the patients. No information is available about the patients who were followed less than six months. The prognosis of this group is difficult to evaluate, because long follow-up facts are not available. Twenty-one of the New York Hospital series were alive at the end of follow-up periods of from six months to nine years, an average of 3.4 years follow-up. One patient died as the result of a pulmonary infarct two years after the first attack. One patient died during a second attack of ruptured aneurysm and subarachnoid hemorrhage five years after the first. One of the New York Hospital patients was alive seven years after the first attack. During this time he had had six recurrences. Another New York Hospital patient was alive and free from sequelae and recurrences nine years after the first attack.[22a] Magee [11] found 22 of his surviving patients living an average of fourteen months (six months to four years) after the first attack of bleeding (table 3). Richardson and Hyland [10] followed 37 recovered patients an average of four years (six months to ten years) and found that all were alive except 2 who had died from unknown causes. Five of their patients had had nonfatal recurrences. Dandy [4] reports 2 patients alive twenty-two and fifteen years after hemorrhages. But he found that 2 patients died from recurrences eleven and six years respectively after the first rupture. Jefferson [23] described 3 patients alive six, five and four years respectively after the initial hemorrhage. He also reported that 1 died from a second subarachnoid hemorrhage eighteen years after the first attack. Rosen and Kaufmann [24] reported a single patient who died of subarachnoid hemorrhage twenty-seven years after the original attack.

In brief, it would appear that patients who survive the first year have a good chance of relatively long survival, but the threat of repeated hemorrhage is always present. Hence, if an aneurysm can be demonstrated in these patients (group 2), surgical intervention is justified.

TABLE 3.—*Results of Follow-Up*

Period of Follow-Up	New York Hospital, Patients Alive	Magee's Series, Patients Alive
1-6 months	6	44
7-12 months	5	13
2 years	3	8
3 years	3	0
4 years	4	1
5 years	2	0
6 years	2	0
7 years	1	0
8 years	1	0
9 years	1	0

MANAGEMENT

Suitable recommendations presented elsewhere have dealt with the important topics of pain and headache, restlessness and excitement, nourishment and fluid intake during the period immediately following hemorrhage.[3] Discussion here will be focused on long term management gleaned from our growing knowledge of prognosis. From the facts that have been presented it is evident that, if patients with subarachnoid hemorrhage could be treated effectively and safely by surgical procedures in the first two weeks after the hemorrhage, the threat of recurrent hemorrhage and death in approximately 70 per cent of all patients with subarachnoid hemorrhage could be removed.

The surgical treatment of subarachnoid hemorrhage as such has been considered only briefly in the literature. Relevant to this problem, however, are the studies of Dandy [4] on intracranial aneurysm, as the rupture of these aneurysms is the most common cause of subarachnoid hemorrhage. Dandy reported a 25 per cent mortality in the treatment of intracranial aneurysms by surgery. That is, he did thirty-six operations and obtained twenty "cures" for a variable follow-up period. A review of Dandy's 108 protocols of patients with intracranial cerebral aneurysms reveals information

22a. Since the preparation of the manuscript, another New York Hospital patient was found to be alive and well after having had a subarachnoid hemorrhage twenty years previously.

23. Jefferson, G.: On the Saccular Aneurysms of the Internal Carotid Artery in the Cavernous Sinus, Brit. J. Surg. **26:** 267, 1938.

24. Rosen, S. R., and Kaufmann, W.: Aneurysm of the Circle of Willis with Symptom-Free Interval of Twenty-Seven Years Between the Initial and Final Rupture, Arch. Neurol. & Psychiat. **50:** 350 (Sept.) 1943.

pertinent to the problems of this study. Sixty-five of all of Dandy's patients with aneurysm both operated and not operated on had subarachnoid hemorrhage. Twenty of his patients died in the first attack of bleeding without operation. Twenty-two died in recurrent attacks of bleeding without operation. Twenty-three of the patients were operated on at variable times after their hemorrhage and the results were as follows:

Ten patients survived. There were 8 patients "well" at six and one-half, four, three and three-quarters, two and one-half, two, one and one-half years, six weeks and two weeks. One additional patient considered "well" had been operated on in 1942, and the report was published in 1944. Still another patient died of anemia one year after operation.

Thirteen of the patients died after operation, but inspection of their protocols reveals that the operative results are not as ominous as this implies. In 6 patients the aneurysm was exposed and clipped or thrombosed and the patient died within two days, except 1 whose aneurysm ruptured two months after operation at the site of cautery. Four patients were mistakenly operated on for brain tumor, and the aneurysm was not revealed. The patients died shortly after craniotomy. Two patients were so ill at the time of operation that adequate procedures could not be performed. One patient died of pneumonia one month after ligation of the internal carotid. It is noteworthy that in the majority of these patients exploration was done without arteriographic evidence of the location of the aneurysm.

Although the operative procedure is hazardous, with the use of arteriograms to localize the aneurysm, the selection of patients who are good surgical risks and improvement in neurosurgical technic, reduction in mortality rate can be expected.

The situation can be epitomized as follows:

1. If the patient first comes under observation during the first or second week after a first attack of bleeding and has shown no evidence of continued bleeding, there is more than a 20 per cent chance that he will have a recurrence and die of subarachnoid hemorrhage. If arteriograms reveal a definite aneurysm whether localizing signs are present or not, the surgical risk of craniotomy is probably worth while.

2. If the patient first seeks medical attention more than a month after his initial hemorrhage and has significant symptoms referable to a probable aneurysm, arteriograms should be done. The decision concerning craniotomy will then depend on the location of the aneurysm and the nature of the symptoms.

3. If the patient first presents himself more than a month after his first hemorrhage, and he has had no recurrences and no localizing signs or symptoms, there is danger of rupture and death at some time in the future, but this danger is probably not as great as that attendant on craniotomy. In such instances arteriography is optional. If the patient in addition suffers from migraine, the cerebral vasodilatation [25] which often accompanies this phenomenon menaces the thin aneurysmal wall, and repeated and protracted insults of this kind may precipitate rupture of the aneurysm when the state of the wall makes this imminent. Therefore, in the long term management of patients with subarachnoid hemorrhage and migraine, if surgery is not feasible, every effort should be made to reduce the number of migraine headache attacks to a minimum.[26]

25. Graham, J. R., and Wolff, H. G.: Mechanism of Migraine Headache and Action of Ergotamine Tartrate, Arch. Neurol. & Psychiat. **39:** 737 (April) 1938.

The following method of management is therefore recommended:

A patient with a typical history and spinal fluid findings of subarachnoid hemorrhage, who is under the age of 60 and does not have evidence of severe generalized arteriosclerosis, subacute bacterial endocarditis or "bleeding tendency," is to be considered for surgery.

If the patient is alert and cooperative, does not have signs of continued bleeding and is observed during the first to the fourth week after the hemorrhage, arteriograms should be done. When an aneurysm can be visualized, craniotomy should be done if the aneurysm appears to be accessible to the surgeon. Localizing signs should indicate the side on which the arteriograms should be first done. Skull plates should be taken and searched for calcium shadows indicating the site of the lesion. When the arteriograms are negative, the patient should be confined to bed for from four to six weeks after the bleeding has stopped.[27]

If the patient presents himself for the first time more than four weeks after the first hemorrhage and has persistent neurologic signs of an intracranial mass, arteriograms should be done and surgical operation considered. If the patient has survived without recurrence more than four weeks after the original hemorrhage and has no signs or symptoms, arteriograms and surgical intervention should be considered optional.

CONCLUSIONS

Twenty-nine per cent of patients who enter the hospital with subarachnoid hemorrhage die during the first episode of bleeding; 14 per cent die during recurrent bleeding between the second and the fourth week after the initial hemorrhage, and an additional 5 per cent die by the end of the first year. The majority of the remaining patients who survive the first year are alive three or four years after the initial hemorrhage. However, some die in from one to twenty-seven years of a recurrence of the subarachnoid hemorrhage; others die of some other illness. A few may live twenty-seven years or longer after the first attack without recurrences. Nevertheless, the threat of recurrent hemorrhages and death is always present.

On the basis of these findings it is recommended that patients who come under observation during the four weeks after a subarachnoid hemorrhage be subject to arteriography and subsequent craniotomy if an aneurysm is visualized.

Those who have had their last hemorrhage more than four weeks previously and who have localizing signs of an intracranial mass should have arteriography and subsequent craniotomy if suitable indications exist. When the localizing signs are absent in these patients, arteriography and appropriate surgical intervention are optional pending future development of neurosurgical procedures.

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26. Wolff, H. G.: Migraine, in Barr, D. P.: Modern Medical Therapy in General Practice, Baltimore, Williams & Wilkins Company, 1940, p. 2068.

27. Lumbar puncture should be done only for diagnosis. Rarely it may be performed to lower dangerously increased intracranial pressure resulting in deepening coma, depressed respirations and rise in pulse and blood pressure. When lumbar puncture is done for diagnosis, only 1 or 2 cc. of fluid should be slowly withdrawn, and this should be centrifuged to demonstrate xanthochromia. On the rare occasions when it must be done for therapeutic purposes, a number 22 gage needle should be used. The fluid is allowed to run up the manometer to establish the initial pressure level, and the manometer then tilted so that approximately the original pressure level is maintained. The fluid is allowed to run out of the top of the tilted manometer drop by drop, so that at the end of a half hour the pressure level is approximately half of the original pressure. Such a lumbar puncture is an emergency measure and should certainly not be done routinely at fixed intervals.

CONGENITAL ANOMALIES FOLLOWING MATERNAL RUBELLA IN EARLY WEEKS OF PREGNANCY

WITH SPECIAL EMPHASIS ON CONGENITAL CATARACT

C. H. ALBAUGH, M.D.
LOS ANGELES

In 1942 Dr. N. McAlister Gregg [1] of Australia published the first report of congenital anomalies in infants born of mothers who had contracted exanthematous disease in the early weeks of pregnancy. Since then other reports have appeared in increasing number, both in Australia and in this country. In this communication the literature is reviewed and 9 additional cases are reported.

REVIEW OF LITERATURE

Although Gregg's report was carefully reviewed by Reese,[2] a brief summary of the important facts is included here. In Australia in 1940 there occurred a severe epidemic of rubella, which for the most part affected young persons who had not been exposed in previous epidemics. It is noteworthy that most of those women who were affected during pregnancy were primiparas. The description of the disease was pleomorphic and the diagnosis was often in question because there was a concurrent epidemic of sore throat which had apparently begun in the military establishments and had then spread to the civilian population. Gregg questioned whether, in some instances, the rash might not have been a toxic erythema accompanying the streptococcic infection of the throat.

Of the total of 78 cases reported by Gregg,[1] 13 were from his own practice, 7 he had seen personally with colleagues, and the remaining ones were reported to him by other colleagues.

Incidence of Rubella.—A history of rubella was obtained in all but 10 of the 78 cases. However, in that group of 10 the diagnosis was sufficiently suspected for them to be included.

Cataract.—All of the infants were found to have cataract at birth, bilaterally except in 16, in which there were unilateral lens changes. In all cases the nuclear portion of the lens was most affected, and in many the whole lens seemed to be involved. Absorption of lens material following needling was slower than in the ordinary congenital cataract. It was also noted that these babies were very sensitive to atropine in that they exhibited constitutional symptoms after only small amounts of the drug had been administered. Furthermore, in none of them was good pupillary dilatation obtained. Gregg urged early operation in order that development of the macula and of fixation might result from the stimulus of sight. He pointed out that this type of cataract fails to correspond to any previously described type of congenital cataract. He also made the observation that it is strange that, rubella being as common a disease as it is, there have been no observations of congenital defects in infants ascribed to this cause.

General Observations.—In the series of 78 cases definite congenital heart lesions were reported in 44, and in many others the diagnosis was uncertain. Patency of the ductus arteriosus was found in 3 cases at autopsy. Nearly all of the babies were underdeveloped and presented feeding problems.

The report of Gregg caused sufficient interest so that, under the egis of the National Health and Medical Research Council of Australia, Swan and his associates [3] were commissioned to collect and correlate data on this syndrome. Their report in 1943, covering the period 1939 to 1942 inclusive, concerned itself with 61 infants examined, 36 of which were found to have congenital defects. Forty-nine of the mothers had rubella during pregnancy, and 31 of the offspring exhibited congenital defects.

Of the 31 mothers who subsequently gave birth to children with congenital defects, 29 had contracted rubella within the first three months of pregnancy. All of the 25 mothers who contracted rubella in the first two months had infants with congenital abnormalities, but of the 8 who contracted the disease in the third month of pregnancy only 4 gave birth to congenitally defective offspring.

Eye Defects.—Of the 14 children with eye defects, 13 had cataract and 1 had buphthalmos. All of the mothers had rubella in the first three months, and 12 of those 14 had rubella during the first two months. In 9 of the infants the eye defects were accompanied by heart lesions; 3 were mentally deficient; 1 had talipes equinovarus. Swan and his co-workers [3] describe the eye changes as follows (p. 205):

> The opacity then had the appearance of a flattened dense white disk in which six radiating lines were visible. These lines were presumed to be the two lens Y's superimposed, giving an appearance like a minute white starfish. If good mydriasis was obtained, a clear zone was visible peripheral to the opacity. The whole lens was very small, however, and at operation tended to move with the needle, so that the edge of the lens and suspensory ligament appeared within the pupillary margin.

Ear Defects.—Seven of the infants in the series with congenital defects were deaf-mutes, 2 of which also had heart lesions.

Cardiac Defects.—Of the 31 cases with congenital abnormalities, 17 had cardiac defects. Of these 8 had cataract, 1 had buphthalmos and 2 were deaf-mutes. Cyanosis was absent in all 17.

Other Defects.—Four of the babies were mentally retarded, 1 had hypospadias and one had talipes equinovarus. The impression was gained that persistent thymus was more common than in normal infants.

Swan and his associates were careful to verify the diagnosis and description of rubella and are reasonably certain that the diagnosis was correct and that this is not a new disease entity.

The most significant conclusion to be drawn from their report [3] was that (p. 209):

> On the available evidence, when a woman contracts rubella within the first two months of pregnancy it would appear that the chances of her giving birth to a congenitally defective child are in the region of 100 per cent, and if she contracts rubella in the third month they are about 50 per cent.

In 1945 Swan [4] reported another series of cases. Of 70 offspring of women having rubella during pregnancy, 49 exhibited congenital abnormalities. Twenty of these babies had eye defects. Cataracts were present in 17, of which over half were afflicted with heart dis-

Paper in a symposium on Congenital Disorders Involving the Skin, published under the auspices of the Section on Dermatology and Syphilology.

1. Gregg, N. M.: Congenital Cataract Following German Measles in the Mother, Tr. Ophth. Soc. Australia (1941) **3**: 35-46, 1942.
2. Reese, A. B.: Congenital Cataracts Following German Measles in the Mother, Am. J. Ophth. **27**: 483-487 (May) 1944.
3. Swan, C.; Tostevin, A. L.; Moore, B.; Mayo, H., and Black, G. H. B.: Congenital Defects in Infants Following Infectious Diseases During Pregnancy, M. J. Australia **2**: 201-220 (Sept. 11) 1943.
4. Swan, C., in discussion on Congenital Cataract in Children Following Maternal Rubella, M. J. Australia **1**: 122 (Feb. 3) 1945.

ease, 1 with buphthalmos, 1 with bilateral central visual defect and 1 with squint; 3 were mentally deficient, and 1 had talipes equinovarus.

Of the 45 with congenital defects, 15 were deaf-mutes, 5 of which had heart disease also. Swan found that heart disease occurred more often in association with cataract than with deaf mutism.

Cardiac abnormalities were present in 26 cases of the series. Seven had heart disease with no other apparent defect, 10 had cataract, 5 deaf-mutism, 1 buphthalmos, 2 mongolism and 1 squint. Swan cited Dr. Mervyn Evans, who had found congenital dental abnormality consisting of retardation of eruption in 23 out of 34 babies whose mothers had rubella during early pregnancy. As Gregg had thrown some doubt on the diagnosis of rubella, Swan and his co-workers were careful in their study of the symptomatology of the reported cases. They were led to the conclusion that analysis failed to support any other diagnosis than that of rubella. They also noted that in 35 of the 49 mothers who were diagnosed as having rubella the diagnosis was made by medical practitioners of wide experience.

The first report to appear in the American literature was that of A. B. Reese [2] in May 1944. He reviewed thoroughly the then extant material from Australia and reported another 3 cases of his own. All 3 of the infants he saw were afflicted with congenital cataracts and congential heart lesions, and all of the mothers had contracted rubella within the first trimester of pregnancy. Reese emphasized the characteristic of shallow chamber; it made him cautious about dilating the pupils for fear of precipitating glaucoma. Again, he raised the important question that if the so-called rubella was true rubella then why had not the relationship between its occurrence and congenital anomalies been recognized before?

A few months later Rones [5] reported 4 more cases. In 3 of his cases the mother had had rubella and in 1 case morbilli. In the 2 cases in which the exanthem occurred during the second month of pregnancy the infant developed cataract, whereas in those in which the disturbance occurred during the third month congenital glaucoma appeared.

In October 1944 Erickson [6] reported 11 cases of congenital malformation of the eyes and heart following rubella in the mother in early pregnancy. One of the cases revealed that rubella had been contracted at two and one-half months, the latest of any of them, and in this case cataracts were not present but there were opacification of the cornea and microphthalmia.

In February 1945 two reports were published. Perera [7] reported 1 case of congenital cataracts following rubella in the mother during the second month of pregnancy. Greenthal [8] reported 2 cases in which the mother had had a medical diagnosis of rubella during the first two months of pregnancy. One of the babies suffered deaf-mutism with no other apparent lesion, and the other had a unilateral cataract and a heart lesion as well as mental and physical retardation.

This relationship between maternal rubella and congenital defects in the offspring first entered the national consciousness early in 1945 with the remarks of Dr. P. M. Stimson [9] of New York, whose discussion of the subject at the New York Academy of Medicine was reviewed (without Dr. Stimson's knowledge) by a *Time* magazine reporter.

Observations in Nine Cases

	1	2	3	4	5	6	7	8	9
Cataract	Bilateral	Bilateral	Bilateral	Bilateral	Bilateral	Bilateral	Bilateral	None	Bilateral
Pupil reaction to light	Poor	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor
Strabismus	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Nystagmoid movement	Yes	Yes	No	Yes	No	No	No	No	Yes
Microphthalmia	No	Yes	No	Yes	No	No	No	No	Yes
Glaucoma	No	No	No	No	No	No	No	No	No
Shallow chamber	No	Yes	No	Yes	No	No	No	No	Yes
Operation	Needling at 13 mo.	None	Needling at 2 yr.	Needling at 3 and 6 mo.	Suction removal of both eyes	None	Needlings	Optical iridectomy	None
Rate of absorption	Normal	.....	Very slow	Very poor	Very rapid	.....	Slow		
Disease in mother	Rubella	Rubella	Exposed to morbilli	Rubella	Rubella	Morbilli	Rubella	Rubella	Rubella
Week in pregnancy	Third	Fourth	Fourth	Second	Sixth	Eighth	Tenth	Tenth	Eighth
Heart lesions	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Cyanosis	For 1 mo.	No	Yes, on exertion	One day	No	No	Unknown	No	Yes
Microcephaly	Yes	Yes	Uncertain	Yes	Yes	Uncertain	Uncertain	No	Yes
Retarded development	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Feeding problem	No	Yes	Unknown	Yes	Yes; pyloric stenosis	Yes	Yes	Yes	Yes
Upper respiratory disease susceptibility	Yes	No	No	Yes	No	Yes	No	No	Yes
Other abnormalities	No	No	No	Umbilical	Undescended testicles Pyloric stenosis	No	No	None	Umbilical hernia
Cause of death	.....	.....	.....	.....	.....	Cardiac decompensation Pneumonia	.....	.....	Cardiac failure

Cases 2, 3 and 6 are reported from the Ophthalmological Service of the Children's Hospital, Los Angeles.
Case 5 is reported by courtesy of Dr. Alfred Robbins of Los Angeles.
Case 1 is reported by courtesy of Dr. John P. Lordan of Los Angeles.
Cases 7 and 8 are reported by courtesy of Dr. Robert A. Norene of Los Angeles.
Cases 4 and 9 are from the author's private practice.

REPORT OF CASES

Nine cases of congenital abnormality in the infant following an exanthem in the mother in the early weeks of pregnancy are herewith reported. For the sake of brevity and ready reference these cases are reported in table form. It is suggested that the term rubella be

5. Rones, Benjamin: The Relationship of German Measles During Pregnancy to Congenital Ocular Defects, M. Ann. District of Columbia **13**: 285-287 (Aug.) 1944.

6. Erickson, C. A.: Rubella Early in Pregnancy Causing Congenital Malformation of Eyes and Heart, J. Pediat. **25**: 281-283 (Oct.) 1944.

7. Perera, C. A.: Congenital Cataract Following Rubella in Mother, Am. J. Ophth. **28**: 186 (Feb.) 1945.

8. Greenthal, R. M.: Congenital Malformations in the Infant Caused by Rubella Early in Pregnancy, Arch. Pediat. **62**: 53-56 (Feb.) 1945.

9. Stimson, P. M.: German Measles Menace, Time **45**: 57-58 (March 5) 1945.

used in place of German measles because the public has felt that German measles is a relatively innocuous disease.

COMMENT

Swan [10] has noted that grossly the lens in this condition has the appearance of being smaller than normal, with the densest opacity in the nucleus. He was fortunate enough to examine sections of the lens from autopsy material and discovered that the characteristic picture is that of complete necrosis of the nucleus with more or less distortion of the secondary fibers, depending on the time of the disturbance. He considers that disturbance of secondary fibers indicates that the process, whatever it may be, continues to be evident after the seventh and eighth weeks, since those fibers are not formed until after that time.

All the cardiac defects were related to the septums and the ductus arteriosus. Various degrees of severity of such defects have been observed, from simple patency of the foramen ovale or patency of the ductus arteriosus to large openings between both auricles and ventricles, with patency of the ductus arteriosus. It is known that the critical period for the development of cardiac defects is from the fifth to the eighth week.

As yet no examinations of the internal ear have been reported.

Stages in the development of the human lens are approximately as follows: [11]

Four mm. stage (third week), lens plate develops.

Five mm. stage, lens pit present.

Seven mm. stage, lens vesicle present but still connected to surface by lens stalk.

Nine mm. stage, lens vesicle separates from surface.

Sixteen mm. stage (sixth week), lens cavity obliterated.

The foregoing data would indicate that the critical period for attack on the lens nucleus would be before the eighth week of pregnancy. This assumption is certainly consistent with the reported statistics on disorder of the lens. Although at the present stage of knowledge any hypothesis would be purely speculative, it would seem likely that either one or both of two processes is responsible for the lenticular lesions. For instance, it is well known that embryonic and undifferentiated tissues are most susceptible to virus invasion. This fact is made use of in the laboratory in that viruses are cultivated on the embryo of the chick. In the human lens, differentiation begins to take place during the eighth week and thereafter progresses rapidly and very likely with reduced vulnerability to virus invasion. The same logic may be applied to susceptibility of the placental barrier. The status of vulnerability to virus infection is about the same for all the other vital organs of the body.

On first consideration it might seem logical to assume that, since the virus of rubella appears to attack the ectodermal structures in the adult, it might do likewise in the embryo. It would be easy, thus, to account for lesions in the lens, as it is an ectodermal structure and at the time of the disease may still have a connection with the surface ectoderm. Such an assumption could not be held so logically when the cardiac lesions are considered. E. W. Hurst [12] is of the opinion that the lesions are due to faulty nutrition as a result of disturbance in the vascular supply consequent on invasion by the virus or its products.

Several questions have arisen out of the appearance of this new disease association. Some of them might be listed as follows:

Is the disease which affects the mother rubella? Is it rubella in a new form or of increased virulence? Why has this association not been recognized before? Ida Mann [13] expressed the opinion that the defects were not a new complication of rubella but a previously undetected result of it and possibly of other infections.

Another question that might well be posed, in addition to all the others, is Why do not all the anomalies occur more uniformly in each individual infant? For instance, why should unilateral cataract occur in some children? Why does one have cataracts with heart disease when another has cataracts without any other anomaly? If the disease process continues over a considerable period of time, as Swan suggested, then the timing of the disease should not have such a critical part in the locus of the anomaly.

Rones,[5] cautious in his opinion, notes that his findings tend to bear out the assertion of Swan that all mothers with exanthematous diseases such as rubella in the first two months of pregnancy will give birth to children with congenital abnormalities. He should be agreed with when he iterates that many thousand cases will be needed for compilation before these findings are accounted as fact rather than as coincidence. He has recommended that a thorough statistical study be carried out by some national agency to establish the validity of present assumptions.

The fact that buphthalmos has been reported as a congenital defect following maternal rubella in the early weeks of pregnancy would tend to bear out the theory of interference with blood supply in the structures at the angle of the anterior chamber. The report of Rones [5] would indicate that buphthalmos occurs when the exanthem is contracted during the third month. Any necrosis with consequent fibroplastic process would certainly interfere with the later gradual atrophy of material at the anterior chamber angle. Apparently the atrophy mentioned is responsible for the development of the filtration area at the angle. If scar tissue were present, such atrophy could not take place.

In answer to the inquiry why other diseases in early pregnancy are not responsible for the development of similar anomalies in the infant, Swan [10] has postulated that the severe virus infections such as morbilli may kill the fetus and lead to spontaneous abortion, whereas the milder diseases such as rubella cause only damage to the fetus.

Whatever the pathogeny of these congenital abnormalities, it is certain that the suggestions of the Australians that rubella and its causative agent be more carefully studied are to be taken seriously both here and abroad.

In the management of these cases, Gregg [1] stressed the desirability of early operation in order to avoid

10. Swan, C.: A Study of Three Infants Dying from Congenital Defects Following Maternal Rubella in the Early Stages of Pregnancy, J. Path. & Bact. **56**: 289-295 (July) 1944.

11. Mann, Ida C.: The Development of the Human Eye, London, Cambridge University Press, 1928.

12. Hurst, E. W., cited by Swan, Tostevin, Moore, Mayo and Black.[3]

13. Mann, Ida C., in discussion on Congenital Cataract in Children Following Maternal Rubella, M. J. Australia **1**: 123 (Feb. 3) 1945.

the development of nystagmus. In monocular cases operation might well be postponed until the infant is a year old or more, as binocular vision is rarely developed in unilateral aphakia. However, in all cases the time of operation is subject to the general health; many of the infants are feeding problems with poor general health, and many of them have cardiac lesions which make the administration of a general anesthetic risky. Furthermore, at least from the medicolegal aspect, the desirability of x-ray treatment to the thymus before surgery should be considered seriously.

Gregg,[1] and Swan [3] too, performed needlings in the cataract cases in which they operated. It was found that discission was difficult because of the small cornea and shallow chamber. It was their opinion that simple needling was ineffective and that break-up of the whole cataract was necessary. In some of the cases reported herewith the same difficulties were experienced. However, Dr. Alfred Robbins [14] of Los Angeles used his suction method in 1 of the cases. Recovery was rapid and uneventful and the fundus could be observed immediately after surgery. In this 1 case Dr. Robbins did not feel that the fundus differed materially in appearance from that of a child with the ordinary type of congenital cataract. This is the first reported observation of the fundus in a case with this type of a cataract.

Nearly all of the reports have indicated that dilation of the pupil with atropine was both unsatisfactory and hazardous. As a matter of fact, such is the case in almost any newborn baby because the fibers of the dilator muscle are not completely developed at birth. The fact that constitutional symptoms appeared is not remarkable, because these were underdeveloped babies who might be expected to be less tolerant to ordinary doses. Furthermore the average drop from an ordinary ophthalmic dropper contains approximately 1/150 grain (0.4 mg.) of atropine when a 1/8 per cent solution of atropine sulfate is used. Several drops are usually used to dilate the pupils prior to surgery, and it can be seen easily that an unusually large amount of atropine may be absorbed by the infant. Little wonder then that constitutional signs are frequently seen. In the series of cases reported here much more satisfactory results, both as to dilatation of the pupil and absence of constitutional signs, were obtained with 2 per cent neosynephrin. No untoward effects were noted even in those with cardiac lesions.

As yet no report has appeared which attempted to evaluate accurately the visual results of surgery. However, in cases 4, 5 and 7 reported here, in which survival occurred and operation was performed, there is sufficient vision so that these infants are able to orient themselves and to move about by themselves.

As the occurrence of rubella in early pregnancy apparently leads to such crippling consequences in the offspring, it becomes a problem of no little importance from the public health standpoint.

Swan and his associates [3] suggested two methods of attack: the taking of steps to isolate the causative agent with a view to preparing a protective vaccine, and the use of convalescent serum, which should be studied both for use in the incubation period and as a prophylactic for nonimmune pregnant women. They also observed that termination of pregnancy had been suggested, but they felt that no legal grounds exist in Australia, at least, and that legislation to such an end might be open to abuse. Erickson [6] suggested that girls should be exposed deliberately to rubella before maturity and that, particularly during epidemics, women who are in early pregnancy and have not had rubella should be given convalescent serum. Greenthal [8] is of the opinion that every child should be allowed to contract rubella before maturity in spite of the danger of complications. Both Reese [2] and Stimson [9] mentioned the problem of whether women proved to have rubella in early pregnancy should be aborted.

Obviously there is no argument concerning the desirability of making studies on the nature of the causative agent of rubella with a view to the development of a protective vaccine. However, there is room for discussion on the use of convalescent serum. It is evident that in many instances women do not realize that they are pregnant until after the first month and sometimes until much later, so that the prophylactic use of convalescent serum would not always be practicable. Furthermore, except in the large cities where there are communicable disease hospitals or such units in general hospitals, convalescent serum might not be obtained easily.

It is not difficult to agree with Erickson [6] that all girls should be exposed to rubella before maturity if such exposure can be carried out practically. However, it should be kept in mind that such exposure is not without danger, for complications do occur. Christian [15] mentions encephalitis and purpura and in rare instances albuminuria, arthritis, nephritis, pneumonia and colitis. Owen and Greenaway [16] reported meningoencephalitis as a complication.

Consideration of abortion of women who have contracted rubella in early pregnancy cannot be lightly entertained. In the first place, legal precedent would have to be established; in most states abortion is now justified only in order to save the life of the mother. Furthermore, as Swan pointed out, specific legislation, if it could ever be passed, might well be open to abuse, particularly because the diagnosis of rubella is not always certain. Too there are deep-rooted religious scruples which present an almost insurmountable barrier to such a procedure.

The attitude of the general public with widespread knowledge of this disease association is worthy of consideration. Dr. Philip M. Stimson [17] of New York is the man most able to report on such an attitude. He wrote "A doctor who was present at my lecture [before the New York Academy of Medicine] told the magazine *Time* what I had said about rubella; hence the account that appeared in the March 5 number and which I did not see until after it was published. As a result of this not altogether desirable publicity I have had a number of letters from all over the country, most of them telling of additional instances of abnormal babies following rubella in the first two months of pregnancy. In 1 case the mother wrote that now she

14. Robbins, Alfred: Personal communication to the author.

15. Christian, H. A.: The Principles and Practice of Medicine, ed. 15, New York, D. Appleton-Century Company, Inc., 1944.

16. Owen, A. B. S., and Greenaway, T. M.: Meningoencephalitis Complicating German Measles, M. J. Australia 2: 536 (Nov. 23) 1940.

17. Stimson, P. M.: Personal communication to the author.

understood why her baby had been afflicted with congenital cataracts and congenital heart disease and general underdevelopment, and she felt she could go on and have more children—something she had not thought she could do, fearing that there was a family taint somewhere. Only one letter—this from a lawyer in Tucson, Ariz.—protested against the statement that abortion would have to be considered very seriously; and a rather remarkable fact is that I have received no letters from anybody saying that they had rubella early in pregnancy and had had a normal baby. In fact, I have yet to hear of an authentic such case."

SUMMARY

Available data would suggest that 100 per cent of the mothers who contract rubella in the first two months, and approximately 50 per cent of those who contract it during the third month, will give birth to infants with congenital anomalies.

The commonest lesions in the infants are cataracts, cardiac septal defects and patent ductus arteriosus, deafmutism and microcephaly.

Nearly all of the infants are poorly developed and are feeding problems.

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ABSTRACT OF DISCUSSION

DR. F. W. LYNCH, St. Paul: Dr. Albaugh deserves thanks for calling attention to the now clearly established fact that when rubella occurs during pregnancy it frequently results in one or more congenital anomalies. The prognosis is more severe when the disease occurs as early as the second month. It seems likely that when the disease occurs later the fetus may not be so gravely influenced. Some years ago I reviewed the influence of infectious disease on the fetus (*Arch. Dermat. & Syph.* **26**:997 [Dec.] 1932) and found that in the more serious disorder rubeola the fetus rarely survived and in 47 cases of fetal smallpox there was a mortality rate of 80 per cent. Congenital abnormality other than the eruption of its scars had not then been recorded. In 9 supposed examples of fetal vaccinal eruptions only 2 infants lived and their disease was acquired in the ninth month of pregnancy. This review also concluded that vaccination in pregnancy, even when early, seldom transmitted immunity to the fetus. Such observations and the evidence cited by Albaugh support a belief that these congenital abnormalities of the eye, heart or nervous system are the effect of disturbance in the vascular supply rather than the direct influence of the virus. This report should spur attempts to develop a protective vaccine or make more generally available the benefits of convalescent serum therapy for rubella. Regarding justification for deliberate previous exposure, the situation is probably comparable and the risks of complication are probably no greater than with vaccination in the case of smallpox. In consideration of "prophylactic" abortion when rubella occurs in early pregnancy there are legal and religious questions and the added moral one of uncertainty as to the natural outcome. It is as yet too soon to accept the statements of some authors that all the children will have congenital abnormalities. In the case of smallpox occurring (later) in pregnancy it was noted that in twin births one fetus might be apparently free from influence while the other had severe disease. Regarding the difficulty of the statistical approach, it was recently noted in the *Lancet* (**2**:20 [July 7] 1945) that all studies have started from known cases of malformation and that the reverse is not practical because in a mild illness such as rubella many cases will remain unreported or even unrecognized. A paper such as Dr. Albaugh's serves the public health purpose of notifying doctors of the probable outcome of rubella in pregnancy and the need for pregnant women to avoid contact with the disease.

CONGENITAL CATARACTS IN SISTERS WITH CONGENITAL ECTODERMAL DYSPLASIA

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An American dentist, Guilford,[1] first reported a case of congenital ectodermal dysplasia of the anhidrotic type. The man, aged 48, was edentulous and had almost complete absence of taste and complete anosmia. He was hypotrichotic and never perspired. At almost the same time Atkinson [2] presented before the Philadelphia Medical Society a man aged 40 who had never had teeth or any distinct growth of hair on the scalp except the downy hairs which are seen in early infancy. He was also destitute of the sense of smell and almost of that of taste. His skin appeared to be unprovided with sweat glands, as he never perspired, and when working actively he was obliged to wet his clothes in order to moderate the body heat. He could sleep in these wet clothes in a damp cellar without catching cold. His jaws presented the appearance seen in persons who have lost all their teeth. Hair was present in the axillary and pubic regions, but the downy hair which is usually seen over the skin at large was wanting, except on the scalp. His maternal grandmother and uncle were similarly defective, and the patient was among the younger of twenty-one children. He was a man of very good health, having never been seriously ill, and, although not able to chew his food in the ordinary manner, had never suffered from dyspepsia. The secretion of urine was unusually abundant. He was married and had eight children, among whom were two girls, both of whom lacked a number of teeth.

Since then many more of these cases have been reported, and in 1920 Goeckerman [3] reported the first female with the anhidrotic type of congenital ectodermal dysplasia—congenital absence of teeth and sweat glands, hypotrichosis and almost complete absence of sebaceous glands. Furthermore, there is another group of cases with a variety of gradations of the aforementioned symptom complex. These patients may have various parts of the developmental ectoderm involved. Perhaps in one group an almost complete hypotrichosis [4] will be the main picture; again, the nails may be absent, hypoplastic or grossly deformed. The patient of MacKee and Andrews had satyr ears in addition to the ectodermal dysplasia. Syndactly [5] and polydactly have occurred. There may even be an aplasia or hypoplasia of the patellae, anomalies of the knee joints and defects of the

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1. Guilford, S. H.: A Dental Anomaly, Dent. Cosmos **25**: 113-118, 1883.

2. Atkinson: Remarkable Case of Defective Development, Philadelphia M. Times **13**: 380 (Feb. 24) 1882-1883.

3. Goeckerman, W. H.: Congenital Ectodermal Defect, Arch. Dermat. & Syph. **1**: 396-412 (April) 1920.

4. Kingsbury, J.: Alopecia Congenita, J. Cutan. Dis. **24**: 419-428 (Sept.) 1906. Oliver, E. A., and Gilbert, N. C.: Congenital Alopecia, Arch. Dermat. & Syph. **13**: 359-373 (March) 1926. Eshner.[35] Hyde.[5]

5. Hyde, Janies Nevius: Congenital Alopecia as an Expression of Atavism, J. Cutan. Dis. **27**: 1-13 (Jan.) 1909.

clavicles.[6] In the cases reported by Cole, Driver, Giffen, Norris and Stroud [7] and by Hailey [8] there was even the congenital absence of a digit together with striking, systematized, pigmented and vascular changes on the skin of the extremities and other cutaneous changes atrophic in character. Moreover, Cockayne [9] in his treatise on "Inherited Abnormalities of the Skin and Its Appendages" says that Deutsch reported a case with a cleft hand.

As the title of this paper indicates, ectodermal elements in development are the ones affected, and it might be expected that among other organs the eye might also be involved.

Fig. 1.—Anterior view of the infants, showing the dark reddish pigmented process surrounding apparently atrophic white areas with absence of hair. As children became older, the trunk also was involved.

CASE HISTORIES [10]

In this paper are presented two sisters having a picture approaching closely the anhidrotic type of congenital ectodermal dysplasia, but perhaps best classified as a combined ectodermal dysplasia, and also having congenital cataracts.

CASE 1.—*History.*—M. A., a white girl aged 2 years, first seen in February 1941, had a skin eruption which was first noted when she was very young.

The father, aged 28, is living and well. His incisors are slightly conical and are more widely spaced than usual. The mother, aged 26, is well. There is no known insanity, tuberculosis, congenital heart disease or epilepsy in either side of the family. The paternal great-grandfather and great-grandmother on the grandfather's side were normal and had six boys and four girls, who had normal skin, eyes, hair and teeth.

The maternal great-grandfather and great-grandmother on the grandmother's side were normal and had five boys and four girls. All had normal hair, skin, eyes and teeth.

The paternal grandfather and grandmother had one boy, one girl and a girl from a previous marriag , all of whom were normal. The grandfather is living and well; the grandmother died of influenza in 1918. (The boy is the father of the defective children.) No history of this condition in any of the children of the aunts or uncles is known except that a daughter of one of the father's uncles has a congenital nystagmus with muscle imbalance.

The maternal grandparents are normal and living and well; they have no recollection of any similar condition in any of their relatives. They have five boys with progeny of five boys and two girls, all living, well, and normal; they have four girls —three of the girls having between them one boy and one girl, living and well. The fourth girl is the mother of the defective children.

There are no intermarital connections this far back. No one knows of a similar condition in either family for the three generations of aunts, uncles, cousins, great aunts and great uncles. There is no history of eczema in the family tree.

The parents of the defective children have had two more girls since the birth of the defective children; one is now 6 months and the other 2½ years of age. Thus far both have normal hair, skin and eyes. Teeth are normal in the older child and are unerupted in the younger baby.

The only other case of congenital abnormality in the family is that in the sister of this patient (case 2).

The general health of this child has been fairly good. She weighed 5 pounds (2,268 Gm.) at birth, and her mental development has been greatly retarded. She talks practically none at all. She had pneumonia at the age of 1 year. She did not walk until she was 22 months of age. The teeth erupted at the usual time. She does not see and has a squint. A cataract was seen in the right eye at the age of 3 months and in the left at 6 months.

Present Illness.—When this child was very young, the mother noted that the skin over the legs was dry and red. The condition progressed to other parts of the body and grew worse. No body sweating has been noted, and in hot weather the child is very fretful.

Physical Examination.—This child (the larger one in figs. 1 and 2) is moderately small for her age. She is not expressive and says but one or two words. Skeletal abnormalities are slight, but there is some accentuation of the frontal bosses and the supraorbital ridges, with relative depression of the bridge of the nose. There is moderate enophthalmos and an internal strabismus. The inner epicanthic folds are thickened and webbed over the medial part of both eyes. There are bilateral cataracts. The nasal mucosa is pale and slightly crusted. There are fourteen widely spaced, small teeth, which are hypoplastic and conical, and the enamel is pitted in places. The deep reflexes are hypoactive. There is a hypoplasia of the nails.

The most striking abnormalities are found on the skin. On casual observation the skin changes suggest an exaggerated case of cutis marmorata. On close inspection the skin of most of the body is mottled with dull, red, confluent, slightly depressed and mildly indurated zones which blanch very slightly with pressure. Between these darker areas are small, pale, ill defined 3 to 10 mm. islands of skin which appear whitish. These skin changes are most accentuated over the extremities, head and back. No hair is visible over the body, but the scalp has occasional long, fine, lanugo-like hairs.

6. Weber, F. P.: A Note on Combined Congenital Ectodermal Defects, Brit. J. Child. Dis. **26:** 270-275 (Oct.-Dec.) 1929. Baisch, A.: Anonychia congenita, kombiniert mit Polydaktylie und verzögertem abnormen Zahndurchbruch, Deutsche Ztschr. f. Chir. **232:** 450-457, 1931. Firth, A. C. D.: Hereditary Absence of the Patellae and Deformity of the Nails, Brit. J. Child. Dis. **9:** 305-311, 1912. Turner, J. W.: An Hereditary Arthrodysplasia Associated with Hereditary Dystrophy of the Nails, J. A. M. A. **100:** 882-884 (March 25) 1933.

7. Cole, H. N.; Driver, J. R.; Giffen, H. K.; Norris, C. B., and Stroud, George, III: Ectodermal and Mesodermal Dysplasia with Osseous Involvement, Arch. Dermat. & Syph. **44:** 773-788 (Nov.) 1941.

8. Hailey, Howard; Hailey, Hugh, and Clemens, Harry: Poikiloderma Congenitale, Arch. Dermat. & Syph. **44:** 345-348 (Sept.) 1941.

9. Cockayne, H. A.: Inherited Abnormalities of the Skin and Its Appendages, London, Oxford University Press, 1933.

10. These cases were seen and studied through the courtesy and cooperation of Dr. Norbert D. Gannon of Erie, Pa.

Laboratory Examination.—The urine findings and the blood picture are essentially normal. The Kline diagnostic blood reaction is negative. Blood chemistry studies show sugar 53 mg., calcium 11.3 mg., phosphorus 4.4 mg. and cholesterol 196 mg. per hundred cubic centimeters of blood, and the phosphatase 0.39 unit per hundred cubic centimeters. Further opportunity to study the blood sugar was not offered, since the child was taken home.

Roentgenography reveals undeveloped, unerupted molar teeth in the jaws. No abnormalities are discovered in the bones of the extremities, trunk or calvarium.

Biopsies were taken from the anterior thigh and the abdomen. The findings of this study will be given later, after description of other findings in case 2.

Hospital Course.—The child remained in the hospital for only three days, but during this time the temperature varied from 37.0 to 37.6 C. (98.6 to 99.7 F.). Since she was removed on short notice, no opportunity was presented to make any temperature studies of her body under varying conditions.

CASE 2.—*History.*—C. A., a white girl aged 10 months, seen in February 1941, at birth also weighed 5 pounds. The delivery was spontaneous and without complication. She has been "cross eyed" since early infancy. Her skin is similar to that of her sister. This change was noted early in life. No mental deficiency was detected at first, but later her mentality was found to be very poor. She developed cataracts in both eyes at about 2 years of age.

Physical Examination.—This infant (the smaller child in figs. 1 and 2) is normally developed and nourished for her age. She has no teeth. The palatal arch is high, but otherwise she shows no abnormalities of the bony framework of the body. The changes about the epicanthic folds and nasal mucosae are similar to those described for her older sister. The nails are rudimentary. The skin changes are similar to those of the older child, but this baby shows a few crusted areas (ecthymas) over the buttocks and legs, with some scaling about the knees.

Laboratory Examination.—The urine and the hemograms are essentially normal. The Kline diagnostic blood reaction is negative. Blood chemistry reveals blood urea nitrogen 19.5 mg., sugar 97 mg., calcium 11.1 mg., phosphorus 5.0 mg., and cholesterol 144 mg. per hundred cubic centimeters. The glucose and adrenal tolerance tests are within normal limits. Roentgenographic studies reveal no osseous or dental abnormalities. Biopsy specimens were removed from the anterior thigh and from the back.

Hospital Course.—When placed within three blankets for about three hours, the child became fretful, lacrimated slightly and showed moderate sweating over the scalp and slight perspiration over the rest of the body. The temperature rose less than 1 degree centigrade. During three weeks in the hospital the temperature varied from 36.0 to 38.2 C. (96.8 to 100.7 F.).

MICROSCOPIC STUDIES[11] IN BOTH CASES

Biopsies were taken of skin from the anterior thigh and the abdomen in case 1 and from the anterior thigh and the back in case 2. Serial sections were cut of each specimen. From each of these sites sections were stained for elastic tissue, connective tissue, iron and melanin. The remaining sections from each site were stained with hematoxylin and eosin. In all there were 38 sections from the abdomen and 81 sections from the anterior thigh in the first case. In the second case there were 52 sections from the back and 54 sections from the anterior thigh. Pigment of the stratum germinativum was scanty and often absent. The pigment found in the upper corium and midcorium did not contain iron in any of these sites but showed the reactions for melanin.

CASE 1.—*Anterior Thigh.*—The epidermis varied considerably in thickness and had a rather thick keratin layer and shallow, sparse rete pegs. The corium was irregular in thickness. It was in part dense, with abundant collagenous and elastic tissue, but in other regions the subcutaneous fat extended high into the corium. No hair follicles and no sebaceous glands were present in any of the sections. Poorly developed sudoriferous glands were present, but in most places even these were reduced in number or absent. There were occasional oblique, small bundles of smooth muscle in the position and with the shape of the arrector muscles. None of these were well developed. In the upper corium were variable numbers of pleomorphic, usually elongated cells packed with dark, yellowish brown melanin pigment. Most of these pigment cells were close to blood vessels, which appeared in moderate numbers.

Abdomen.—The epidermis varied from 4 to 8 layers in thickness and had a moderately thick keratin layer and irregularly developed rete pegs. Pigment in the basal layers was scanty. The corium was largely dense and thick, but it too contained some zones of adipose tissue extending from the subcutis high up into the corium. Sweat glands were poorly and irregularly developed. Occasionally there were rudimentary hair follicles and sebaceous glands, but neither of these were fully developed. Foci of melanin pigment were prominent in the upper corium.

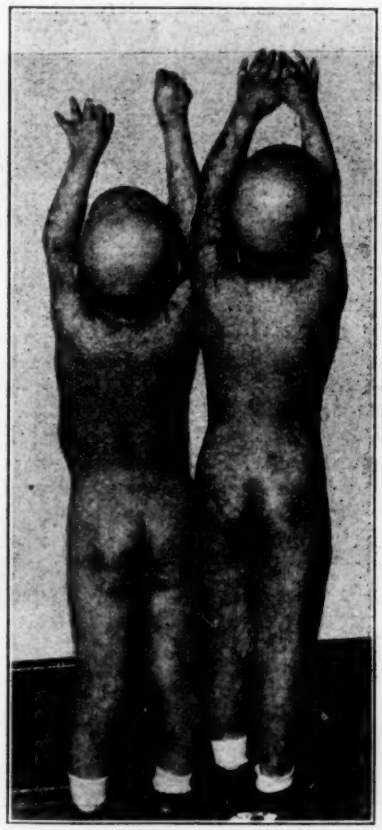

Fig. 2.—Posterior view, children aged 5 and 6, showing the widespread cutaneous change and absence of hair. Note its extensive character over trunk.

CASE 2.—*Anterior Thigh.*—The epidermis was irregularly thickened and had a moderately thick keratin layer, poorly defined, shallow, rete pegs and little or no pigment in the basal cell zone. In this case too the corium was focally replaced by fat extending from the subcutaneous tissue high up into the corium, while between these areas there were strands of collagenous and elastic tissue. Occasional arrector muscles were found in the upper corium, but there were no hair follicles in any of the sections. The imperfect arrector muscles were without attachment. Moderate numbers of normal sudoriferous glands were present in places deficient in number or absent. Pigment cells were noted in the upper corium.

Back.—Biopsies of the back showed epidermis that varied from normal to slightly increased thickness. There were well

11. Dr. Howard Karsner, professor of pathology and director of the Institute of Pathology, and Dr. Harry Goldblatt, professor of experimental pathology and associate director of the Institute of Pathology, concurred in the microscopic findings and the conclusions drawn from them.

defined rete pegs and moderately cellular papillae of the upper corium, with most of the corium thick and dense. There were moderate numbers of imperfectly formed hair follicles, a few poorly developed sebaceous glands and histologically normal sudoriferous glands. The collagenous connective tissue and the elastic tissue were abundant. Scattered lymphocytes were present around the vasa of the upper corium.

CASE SUMMARIES

With a normal mother and a father with only minor dental defects, two sisters are mentally subnormal and the older one shows evidence of dental hypoplasia. The teeth are present in the other child but as yet are unerupted. Both have atrophic nasal mucosae. Both children stand heat poorly, and the second child experimentally shows a subnormal response to heat with little perspiration. In both children there is almost complete

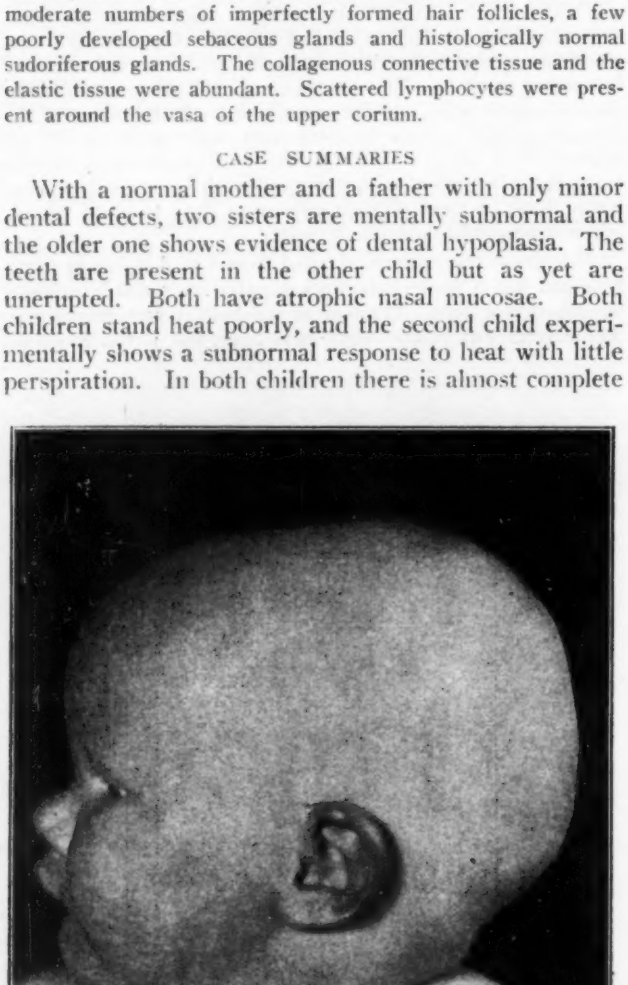

Fig. 3.—Second child, side view of head. Note cutaneous changes, depressed saddle nose and occasional sparse hair on head.

absence of hair. Both have bilateral congenital cataracts and internal strabismus and were seen by one of the authors (J. T. S.) with regard to them. He reports that they have congenital cataracts which "explode" on rupturing the capsule. Thus far he has operated on three of the four eyes successfully. The squint is the internal, extreme degree type, the right eye being the crossed eye in both children. Ophthalmoscopic view of the retinas and nerve heads appears normal.

Microscopic study of serial sections from two biopsies in each child shows irregular hypoplasia of the skin and accessory structures, sweat glands, sebaceous glands and hairs. In places all three are completely absent, in others rudimentary or present in part, at least sebaceous and coil glands.

COMMENT

The cases described are notable for congenital ectodermal dysplasia approaching the anhidrotic type but probably better classified as a combined ectodermal dysplasia, and especially for bilateral congenital cataracts and extreme internal strabismus. The term dysplasia is preferred rather than defect. "Dysplasia" is defined as "an abnormality in development." The other ectodermal elements seem to be more frequently involved in this rare malady. And yet, as far back as 1875, Sir Jonathan Hutchinson [12] stated that surgeons were aware of a relationship between congenital cataracts and badly developed teeth. He stated that the cataract was of the lamellar or zonular type, neither the nucleus nor the periphery of the lens being involved. He incorrectly interpreted the condition of the teeth to be secondary to the use of "fit" powders containing mercury, for he had noted the frequency of "fits" in these cases. The 2 patients studied have had no convulsions.

In 1879 Tilbury Fox [13] described a patient suffering from epidermolysis bullosa hereditaria. This patient had in addition an atrophy of the skin of the forehead, a hypoplasia of the permanent teeth, "weak eyes" and absence of the nails.

Nettleship [14] also has studied lamellar cataracts, fits and hypoplasia of the enamel of the teeth. The fits occur between the ages of 6 and 18 months. Milk teeth are normal, but permanent teeth with the exception of bicuspids lose their enamel and are pitted. Only the crowns of the molars may be affected. He stated that dental changes are present only where large cataracts are found. Consanguinity appears to be rare, except in the group of complete congenital cataracts. He too has fallen into the error of ascribing the tooth condition to mercury given for the convulsions.

Eshner [15] in 1905 reviewed all cases of congenital alopecia up to that date and reported the case of a man aged 64 with an atrichia, a hypoplasia of the nails, perspiring infrequently and having a retinitis albicans.

Hyde in 1909 discussed the subject of congenital alopecia and described a girl aged 3 with a hypoplasia of the hair and nails, a syndactyly and eyes showing opaque patches on the retinas. He also mentions Nicolle and Halipré's [16] report on congenital alopecia in six generations affecting 36 individuals. These patients often had changes of the teeth and nails and impaired sense of taste and smell. Defective perspiration was observed, and "anomalies of the eyes are apparently among the rarest of the phenomena associated with natal and postnatal hair defect."

Schäfer's [17] male patient with an acne-like follicular keratosis on circumscribed areas of the skin also had leukokeratosis of the mucous membrane, scarlike areas of the scalp, double cataracts (congenital) and changes on the laryngeal mucous membrane.

Schär [18] saw a patient with defective vision and divergent strabismus, absence of the left upper outer incisors, in one of two sisters with a complete anhidrosis. Being a dentist, he mentioned nothing more specific as to the eye trouble.

12. Hutchinson, Sir Jonathan: Imperfect Teeth and Zonular Cataract, Brit. M. J. **1**: 307-309, 1875.
13. Fox, Tilbury: Notes on Unusual or Rare Forms of Skin Disease: IV. Congenital Ulceration of Skin (2 Cases) with Pemphigus Eruption and Arrest of Development Generally, Lancet **1**: 766-767 (May 31) 1879.
14. Nettleship, E.: On Heredity in the Various Forms of Cataract, Roy. London Ophth. Hosp. Rep. **16**: 179-246 (Oct.) 1905.
15. Eshner, A. A.: A Case of Universal Congenital Atrichia, Am. J. M. Sc. **129**: 622-632 (April) 1905.
16. Nicolle, C., and Halipré, A.: Maladie familiale caractérisée par des altérations des cheveux et des ongles, Ann. de dermat. et syph. **6**: 675 and 804-811, 1895.
17. Schäfer, E.: Zur Lehre von den congenitalen Dyskeratosen, Arch. f. Dermat. u. Syph. **148**: 425-432, 1925.
18. Schär, W. W., cited by Christ, J.: Schweiz. Monatschr. f. Zahnh. **37**: 119, 1927.

Maggs's[19] patient, aged 18, had a hypodontism, microdontism, bilateral microphthalmia and almost complete aniridia.

Christ[20] has reviewed the entire subject of congenital ectodermal dysplasias in relation to eye involvement, and the interested reader should refer to this review. He quotes Werner,[21] who has noted the syndrome of cataract formation (congenital), certain malformations of the fingers, atrophies of the skin and fine curly hair. Werner quotes Hofstein "that people with anomalies of the hair and certain types of cataract often have a deficient enamelization of the teeth." Our 2 cases are the only ones we have been able to find in the literature in which all the ectodermal elements, teeth, hair, nails, skin, including the sweat and sebaceous glands, the nervous system and the eyes are involved.

Enough has thus far been said to indicate that this remarkable and very rare congenital condition involving these two sisters is inherited. The typical case of major congenital ectodermal dysplasia of the anhidrotic type is considered to be a sex linked recessive (transmitted by the apparently normal female and affecting some of the males). However, there have been reported typical female cases which must be forms of the disease of other causation and which Cockayne would classify as incomplete dominant (abnormality transmitted by direct descent from the affected members of a family to some of their children, who in turn transmit it, and so on. But the normal children do not transmit it, and it does not reappear in their descendants). Nettleship considered his cases of congenital cataracts with hypoplasia of the enamel as an example of simple dominant inheritance—the sexes were equally affected. The type of heredity in these cases is considered to be of an incomplete dominant form.[22]

SUMMARY

Two sisters, aged 10 and 22 months respectively, had congenital cataracts of the lamellar type, extreme internal strabismus, hypoplasia of the nails, almost complete alopecia, atrophic nasal mucosae and a generalized hypoplasia of the skin. Both children stand heat poorly, both children are subnormal mentally and the older has a dental hypoplasia. Microscopically there is an irregular hypoplasia of the skin and accessory structures, sweat and sebaceous glands and hair. In places all three are completely absent.

Involvement of all ectodermal elements as seen in these sisters is very rare if not unique, and the picture presented approaches closely to that of congenital ectodermal dysplasia of the anhidrotic type but perhaps would better be classified as a combined ectodermal dysplasia.

The dysplasia of ectodermal elements seen in these sisters with only a suggestive dental abnormality in the father and no other family history is probably "incomplete dominant" in type.

1352 Hanna Building.

19. Maggs, W. A., cited by Christ, J.: Kor.-bl. f. Zahnärzte **53**: 11, 1929.

20. Christ, J.: Ueber die Korrelationen der kongenitalen Defekte des Ectoderms untereinander, mit besonderer Berücksichtigung ihrer Beziehungen zum Auge, Zentralbl. f. Haut- u. Geschlechtskr. **40**: 1-21, 1932.

21. Werner, Sigurd: Erblicher Star und feingelocktes Haar bei mehreren Mitgliedern derselben Familie, Zentralbl. f. Haut- u. Geschlechtskr. **31**: 36, 1929.

22. Siemens, H. W.: Die Vererbung in der Aetiologie der Hautkrankheiten, in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1929, vol. 3, pp. 1-162. Steiner, K.: Angeborene Anomalien der Haut, in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1932, vol. 4, pt. 1, pp. 1-127.

ABSTRACT OF DISCUSSION

DR. EDWARD A. OLIVER, Chicago: Cockayne, in his textbook on inherited abnormalities of the skin and its appendages, gives as the outstanding symptoms of anhidrotic ectodermal dysplasia small size and delicacy of constitution, a total absence or deficient number of teeth, conical incisors and bicuspids, and molars with sharp, hooked cusps, short, fine, pale and scanty hair, chronic rhinitis with subsequent loss of the sense of smell, absence of sweating and sometimes, if not always, absence of the lacrimal glands. This report of Dr. Cole and his co-authors is most unusual in that these children, in addition to showing practically all of these symptoms, also show hypoplasia of the nails, a generalized hypoplasia of the skin and, what is still more rare, congenital cataracts. The authors have covered the literature well. Congenital ectodermal defects of a partial character, such as congenital aplasia of the teeth, hypotrichosis and even congenital absence of circumscribed patches of the skin, are no longer rarities. A number of such cases have been reported. These authors' cases are unique in that there is involvement of all ectodermal elements. One of the most interesting features of the majority of these cases is the almost complete absence of sweat glands. By careful microscopic examination the reporters have demonstrated that in these little girls there is an irregular hypoplasia of the sweat and sebaceous structures and in places that all three are completely absent. In practically all of the reported cases of ectodermal defect inability to perspire in warm weather is a prominent symptom, and, while these patients are entirely comfortable in the winter months, they suffer intensely in hot weather. In view of the fact that there was no history of abnormalities on either side of the family, with the exception of a suggestive dental abnormality in the father, the authors are correct in classifying these cases as "incomplete dominant" in type.

DR. GEORGE M. MACKEE, New York: Cole and his collaborators are correct in stating that their patients present an exceedingly rare or even unique variety of combined congenital ectodermal dysplasia, because in these 2 patients all ectodermal elements were involved. Occasionally I encounter minor ectodermal defects and rarely a major case, but I have never seen a patient such as these two sisters. The case reported by Andrews and me was one of major ectodermal dysplasia, but some of the ectodermal elements were normal. In all the congenital ectodermal defects that I have seen, the eyes were either normal or such abnormalities were overlooked. Congenital cataracts or idiopathic cataracts in children, adolescents and young adults, in the absence of other congenital defects, are not uncommon and have been mistaken for x-ray or radium injuries. There are a number of records of congenital cataract occurring in neurodermatitis disseminata, in which also there was mild icthyosis, especially of the legs.

DR. HAROLD N. COLE, Cleveland: The discussion of Drs. Oliver and MacKee is appreciated. It will be interesting to follow the succeeding siblings in this family and note what occurs. Thus far one girl aged 2½ years and another aged 6 months show nothing.

DR. J. T. SIMMONS, Erie, Pa.: It has now been approximately one and a half years since the cataracts were operated on. With corrective bifocal lenses both children now walk about freely, in contrast to their being content to sit still before. They now have an increased vocabulary and recognize common household articles and toys by name, indicating that the visual apparatus is functioning. The squint has shown no improvement to date.

DR. HORACE K. GIFFEN, Cleveland: Not only the physical defects of ectodermal origin but retarded mental development in these children complete the picture of involvement of the whole embryologic ectoderm which includes the nervous system. Mental changes in such cases reported seem to be as rare as the cataracts found in the eyes. These cases then are unique in the completeness of ectodermal involvement with even slight mesodermal defect as well. There is scanty evidence for hereditary transmission here, but such similarity of findings in sisters together with similar cases reported elsewhere make it probable. Periodically the blame for certain types of anomalies has

been placed on infections in the endometrium of the mother, but the evidence for this is probably inadequate. It would be hard to prove or exclude endometrial chemical changes causing abnormal development. Smith and Gault in their "Essentials of Pathology" indicate that present theories for the cause of anomalies rest chiefly on mechanical factors. The birth of apparently normal children following these 2 reported does not exclude the probability of intrauterine infection, but we have no positive evidence to indicate it. However, it is probable that the damage to the ova must have occurred very early in their development.

DISSEMINATED CONGENITAL OSTEOMAS OF THE SKIN

WITH SUBSEQUENT DEVELOPMENT OF MYOSITIS OSSIFICANS

REPORT OF A CASE IN AN INFANT

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Osteoma as a congenital abnormality of the skin is not generally known although its development from embryonal cell rests has occasionally been suggested. Our purpose in this paper is to report a case of osteomas occurring in an infant, which is especially rare and may therefore add to the knowledge of the nature of congenital heterotopic bone formations.

Osteoma has been defined as a new growth composed of bone tissue, benign in nature, without any tendency to invasive growth or metastasis. Osteomas have been found in practically all organs as well as in the skin. Osteoma of the skin has been variously reported as "osteosis cutis" by Arzt [1] and Becker,[2] "osteoma cutis" by Taylor and MacKenna,[3] "osteomatosis cutis" by Dietrich,[4] "miliary osteoma" by Hopkins,[5] "chondro-osteoma" by Carl [6] and many other titles. Few of the reported cases can be considered as true or primary osteomas, that is, in which all component parts throughout the tumor consist of bone tissue. Many are secondary ossifications according to Borst,[7] and may have originated from injuries, inflammatory processes or tumors and the like.

REVIEW OF THE LITERATURE

Osteomas have been mentioned in the earliest literature. They were described as stony, bony substances, calculi or tophi, but a more precise differentiation dates to 1858 (Wilkens's [8] dissertation). Since this publication the literature has been reviewed by Strassberg,[9] Naegeli,[10] Becker,[2] Hopkins [5] and others. No mention is made of osteoma in Cockayne's book of "Inherited Abnormalities of the Skin and Its Appendages" or in Pfaundler and Schlossmann's [12] "Hautkrankheiten des Kindesalter." In the literature we were unable to find a description of cutaneous osteoma in the newborn. In the frequently cited Keiller [13] case the presence of cutaneous bone formation was not demonstrated. The pathologic findings were interpreted by Simpson as a possible "ichthyosis intrauterina," a form of cutaneous congenital disease. The original clinical description and the colored drawing of this premature newborn infant are more suggestive of a monstrosity or malformation.

Taylor and MacKenna [3] observed osteomas in a 15 month old infant, which were first noticed by the mother when the offspring was 5 months of age. A large plaque was present on the knee and smaller ones on the anterior chest wall and on other parts of the body. The pathologic findings were those of bone tissue without any cartilage.

Coleman [14] described a case of "osteosis" in a 6 year old child which appeared at 3½ years of age and involved one third of the external plantar surface of the left foot.

Heidingsfeld [15] found osteomas in a pigmented hairy nevus on the chin of a 21 year old man which had been present since birth. He considered the association of osteoma with a pigmented nevus, which admittedly is of congenital origin, significant and believed that the osteoma originated from displaced embryonal cells.

Carl [6] excised a hazelnut-sized, flat, hard tumor from the neck of a 22 year old man. Its presence was first noticed at 2 years of age, grew until the age of 6 and then remained stationary. The microscopic examination showed typical bone structure, cartilage and calcified cartilaginous groundsubstance. He believed that the tumor was a chondro-osteoma which was derived from dispersed embryonal cells with the potentiality of forming chondromatous or osteomatous tissues.

In 1911 Strassberg [9] published his observations on heterotopic bone formations, based on 6 cases he had studied in his autopsy material at the pathologic institute of Vienna. These seemed to be secondary osteomas, with the exception of 1 case. The first case developed in a laparatomy scar, the second in a varicose complex of the lower leg following hemorrhage and deposit of calcium. In 3 cases bone formation was found in association with a dermoid cyst and epidermoid carcinomas. He thought that in only 1 instance was the development of the osteoma explainable as originating from aberrant embryonal cells. This osteoma was situated in the gala aponeurotica not connected to the periosteum or the skin above. No trauma or other pathologic condition preceded the bone formation and no calcium deposits could be found.

In 1924 Becker [2] reviewed bone formations and reported a case he observed in a 32 year old woman. He described a large triangular plaque situated in the

Drs. J. P. Caffey, H. L. McLaughlin and A. P. Stout gave cooperation and advice.

From the Department of Dermatology of the Vanderbilt Clinic and the Babies Hospital, Columbia University College of Physicians and Surgeons.

Paper in a symposium on Congenital Disorders Involving the Skin, published under the auspices of the Section on Dermatology and Syphilology.

1. Arzt, L.: Osteosis cutis multiplex, Zentralbl. f. allg. Path. u. path. Anat. **36**: 223, 1925.
2. Becker, S. W.: Osteosis Cutis, Arch. Dermat. & Syph. **10**: 163 (Aug.) 1924.
3. Taylor, S., and MacKenna, R. W.: Osteoma Cutis, J. Cutan. Dis. **26**: 449, 1908.
4. Dietrich, C.: Osteomatosis Cutis, Arch. Dermat. & Syph. **41**: 562 (March) 1940
5. Hopkins, J. G.: Multiple Miliary Osteomas of the Skin, Arch. Dermat. & Syph. **18**: 706 (Nov.) 1928.
6. Carl, W.: Ein Chondroosteom der Haut, Arch. f. Dermat.u. Syph. **100**: 183, 1910.
7. Borst, M., in Aschoff, L.: Pathologische Anatomie, Jena, G. Fischer, 1928, vol. 1, p. 728.
8. Wilkens, M.: Ueber die Verknocherung und Verkalkung der Haut, Inaug. Dissert., Göttingen, 1858; cited by Naegeli.[10]
9. Strassberg, M.: Ueber Heterotope Knochenbildungen der Haut, Virchows Arch. f. path. Anat. **203**: 131, 1911.
10. Naegeli, O.: Historischer Rueckblick ueber Befunde von Verkalkungen in der Haut, Heterotope Knochenbildung und Ossificierende Tumoren, in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1932, vol. 4, pt. 3, p. 387.
11. Cockayne, E. A.: Inherited Abnormalities of the Skin and Its Appendages, London, Oxford University Press, 1933.
12. Becker, J., and others: Die Hautkrankheiten des Kindesalter, in von Pfaundler, M., and Schlossmann, A.: Handbuch der Kinderheilkunde, Leipzig, F. C. W. Vogel, 1935.
13. Keiller, A.: Case of Intra-Uterine Cutaneous Disease: Case of Thickening and Deep Fissures of the Skin in an Infant at Birth, Monthly J. M. Sc. **3**: 694, 1843.
14. Coleman, W.: Osteosis of the Skin of the Foot, J. Cutan. Dis. **12**: 185, 1894.
15. Heidingsfeld, L. M.: Osteoma Cutis, Arch. f. Dermat. u. Syph. **92**: 337, 1908.

scalp which had persisted for fourteen years. On palpation it was firm, almost calcareous, and was extremely difficult to cut during biopsy.

Hopkins [5] observed multiple miliary bone nodules on the face and neck which simulated the clinical picture

Fig. 1.—Osteomas of scrotum and perigenital region.

of a mild acne. He thought the small bone tumors developed from embryonal cell rests and were of the nature of bone nevi.

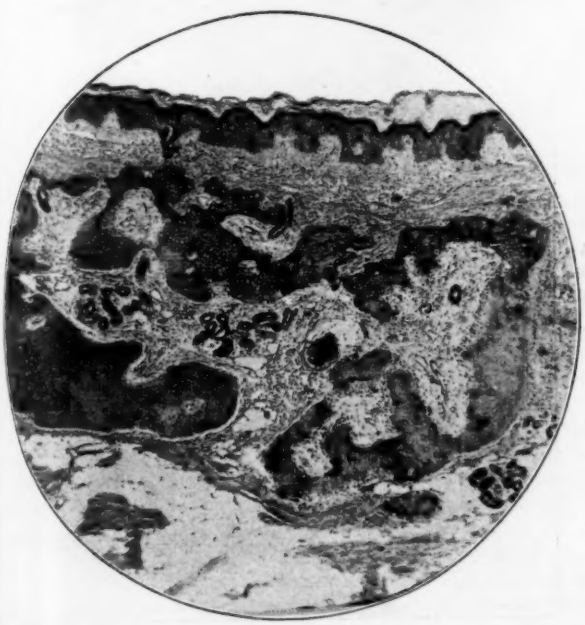

Fig. 2.—Section under low power showing chondro-osteomatous tissue surrounding intact coil glands; note calcified cartilage on left and paler osteoid tissue on right. Hematoxylin and eosin stain.

Musger [16] in his studies of metaplastic bone formations described 6 cases in which bone formations followed various pathologic conditions of the skin. In another publication dealing with true osteomas he reported 2 cases on the basis of the history and histologic findings, although in 1 of these the osseous tissue was found in a "carcinosarcoma."

A very unusual case was described by Dietrich,[4] in which a 42 year old Negress had a peculiar growth on a finger since early infancy. It measured 1.5 by 1.5 cm. and contained 15 to 20 nodules of bone. It impressed him at first as a sesamoid or supernumerary digit, but after further observation and histologic interpretation of Dr. Weidman, he believed that the tumor-like swelling was a congenital abnormality, possibly a bony nevus.

A recent case of osteoma cutis in a 25 year old man was reported in 1941 by Paavo Pirilä.[17] It was of two years' duration and measured 3.5 by 2 cm., barely rising above the skin surface, and was freely movable over the frontal bone. The microscopic examination showed that the osteoid tissue present resembled that found in embryonal bone formation. Pirilä felt that the findings justified the diagnosis of true osteoma of congenital origin and nevoid in character.

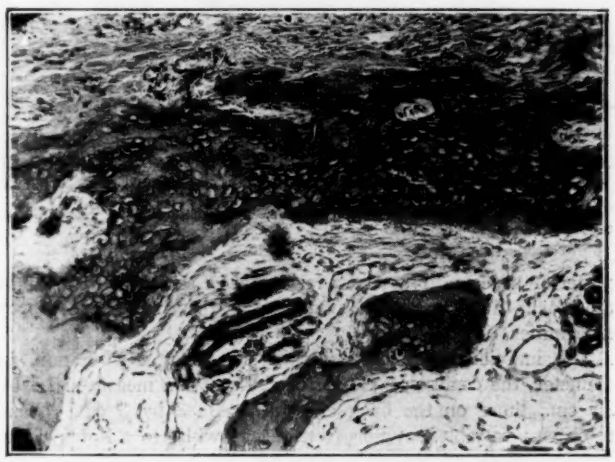

Fig. 3.—Specimen shown in figure 2 under high power.

REPORT OF CASE

History.—C. S., a boy aged 2½ years, was first seen by one of us (F. H. B.) when 19 days old and again at 3½ months. The mother stated that immediately after the baby was born she noticed small, peculiar "bumps" on the left side of the scrotum, on the left leg and on other parts of the body. These were also observed by her obstetrician. The lesions increased in size within the next few weeks with new ones appearing on the body, left lower extremity and back.

The family history was negative. No similar skin disorder was present in the parents and 2 older brothers. The mother enjoyed good health during her pregnancy. She stated that she had not taken calcium, vitamin D or any other drug. Her delivery was normal. The baby's birth weight was 7½ pounds (3,400 Gm.).

Physical Examination.—At 19 days of age the following notes were made: The heart, lungs and abdomen were normal, as were the measurements of the head, chest and height. The skin, however, of the left side of the scrotum, between the scrotum and the left thigh, showed a peculiar lumpy plaque measuring about 1.5 by 2.5 cm. which felt like thrombosed blood vessels. Lymphangioma was the diagnosis made at that time. At 3½ months of age, nodules were felt under the skin of the back, left thigh and ankle regions. The baby was then seen by the senior author.

16. Musger, A.: Knochenbildungen in der Haut: I. Metaplastische Verknöcherungen, Acta dermat.-venereol. **16**: 1, 1935; II. Nicht-metaplastische Verknöcherungen, Wien. klin. Wchnschr. **48**: 200, 1935.

17. Pirilä, Paavo: Ueber Hautosteoma: Ein Fall von echten Hautosteom, Acta dermat.-venereol. **22**: 360, 1941.

Examination of the skin showed a large number of widely disseminated, solitary and grouped, small papular and nodular lesions and irregularly outlined plaques. They were strikingly numerous in the left genitocrural region, on the lower half of the scrotum and the groin and on the left thigh and lower part of the leg, where they involved both the anterior and

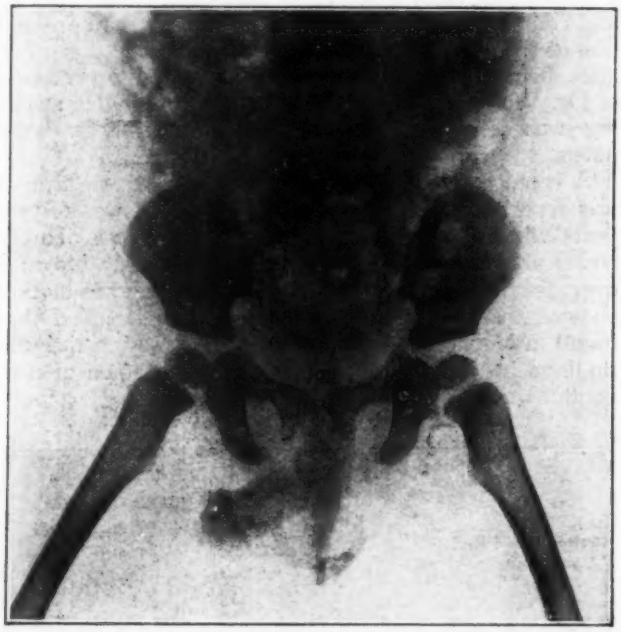

Fig. 4.—Appearance of pelvic region; note opacities in left side of scrotum.

posterior aspects. Numerous lesions were scattered throughout the back, diminishing in number on the trunk and upper extremities.

The individual lesions varied in size from 1 to 5 mm. in diameter, the coalescing plaque on the scrotum measured 1.5 by 2.5 cm., those on the back and left ankle 2 by 3 cm. Their color was variable, ranging from pearly white to a light yellow and from flesh color to a faint red or dull brown. Many of the lesions were distinctly raised above the skin surface 1 to 4 mm. Other lesions were level with the skin surface. The presence of many could be ascertained only through palpation, and in some areas on the back they gave the impression of extending into the deeper layers of the skin. The consistency of the lesions was firm, hard and gritty. The larger plaques were resilient, elastic and after being folded between the fingers resumed their shape instantly. They were firmly attached to the skin but were freely movable over the underlying tissues.

The most unique changes were in the genitocrural region, where a large yellowish white irregular plaque was seen, consisting of closely grouped unequally raised lesions forming furrows and puckerings in the involved skin. This closely simulated the "frog spawn" appearance of lymphangioma. The clinical appearance of the scattered small lesions as to size, shape and color was that of milia. The larger ones simulated cysts, except for their stony hardness (fig. 1). Meanwhile a biopsy was taken, which on microscopic examination proved to be an osteoma.

Course.—The baby was seen again when 11 months old, after spending the winter in the South. His growth and development during this time were normal. The mother thought that many lesions had undergone changes, some having become smaller, others larger. The child was then admitted to the Babies' Hospital for observation and further investigation. At this time there was an apparent involution of the lesions of the left groin, scrotum, thigh and back. The plaques were less raised, and areas previously involved showed evidence of some atrophy. These changes were more pronounced on the trunk and especially on the abdomen, where a large number of round and oval soft and slightly depressed white and flesh colored, macular atrophic lesions measuring 5 to 10 mm. in diameter could be seen without any evidence of stony nodules. There were similar though smaller atrophic lesions present on the thigh, in the center of which one could detect the presence of deep seated miliary osteomas but only through palpation and visualization by x-rays. The only other change during the past year and a half was an occasional spontaneous perforation of the skin with extrusion of a small concrement easily removable by forceps. This occurred mainly on the toes, which at these times became reddened, swollen and tender. After the removal of the concrement and application of wet compresses of cold boric acid solution the inflammatory changes subsided, leaving a slight pigmentation.

Microscopic Examination (G. F. M.).—The first biopsy specimen, consisting of two small pieces of skin, was removed from the back on Nov. 5, 1942. The epidermis showed no evident changes. Within the corium of both pieces were fragmented trabeculated bluish masses. Embedded in this calcified tissue were shrunken cells containing pycnotic nuclei. The reticulated pattern of its osseous trabeculae enclosed a loose fibrillar vascular tissue, spindle shaped cellular elements and fat cells. The corium had been replaced in part by bone containing both osteoblasts and marrow. Correlating the histologic morphology with the clinical description, a diagnosis of multiple congenital heterotopic osteomas was made.

On June 10, 1943 a second piece of skin was excised from the left ankle. Numerous preparations were made and examined (figs. 2 and 3). The epidermis showed a slight hyper-

Fig. 5.—Disseminated opacities in skin of lower part of left leg.

keratosis. Parts of the corium had been replaced by a cellular fibrous tissue. Numerous osteochondromatous trabeculae had formed. These extended from beneath the epidermis, from which they were separated by collagen down to the fat lobules. The more centrally placed areas of the trabeculae were calcified and enclosed relatively large spaces which contained cells with pycnotic nuclei. The trabeculae were rimmed by an eosinophilic

border, within the substance of which were shrunken cells morphologically osteoblasts. The chondro-osteomatous masses contained several multilocular cysts partly filled with eosinophilic amorphous material. These cysts were walled by a condensation of fibrous connective tissue and in part by numerous spindle and cuboidal cellular elements which resembled osteo-

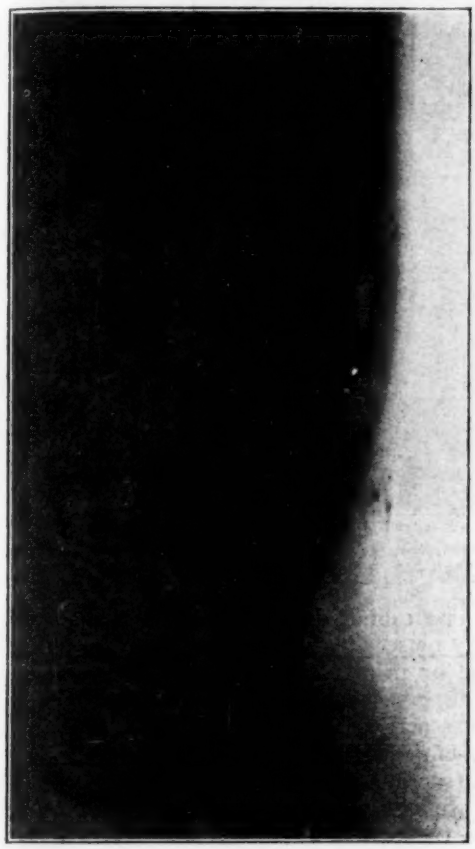

Fig. 6.—Grouped cutaneous opacities in left side of back.

blasts. The few multinucleated cells were thought to be osteoclasts. The interstices between the bony trabeculae contained a vascular finely fibrillar connective tissue with fat cells. This was evidently bone marrow. Tiny islands of eosinophilic osteoid tissue such as rimmed the larger cartilagenous elements were in the deeper corium and in the fat lobules. The intracuticular bone appeared to be derived from both cartilage and connective tissue.

Other sections were stained with Masson's trichrome, von Kossa's silver impregnation and Perl's methods. No keratinizing epithelial cells were demonstrated in the walls of the cysts. There was very little evidence of the presence of calcium phosphate; in fact, the hematoxylin eosin stain demonstrated calcium more adequately than the silver impregnation method. The prussian blue reaction was essentially negative throughout the sections. Microscopic examination failed to disclose the presence of blood pigment or hemorrhage.

The lesion was diagnosed as a heterotopic chondro-osteomatous formation with necrosis. Interpreting the histologic morphology, it was assumed that the tumor was composed of young developing osseous tissue.

A third specimen, which consisted of a firm cutaneous extrusion, was obtained on Feb. 15, 1945. Microscopic examination of sections disclosed necrotic, partially calcified trabeculated chondro-osseous tissue surrounded by numerous polymorphonuclear leukocytes. A shred of thick keratinized epidermis was attached to the bone. The lesion represented a necrotic heterotopic osteoma.

(All specimens were fixed in solution of formaldehyde U. S. P. diluted 1:10 and except for the first were decalcified.)

A concrement which had been extruded from one of the child's toes was reported as an "exostosis" by another pathologist.

Roentgenograms (figs. 4, 5, 6 and 7) of long bones with special films for soft tissue were examined by Dr. Caffey, who reported that in several areas of the skin, particularly those of the left lower extremity, perineal region and lumbar level of the back, there were scattered shadows of calcium density. These varied from the large plaques on the left side of the scrotum several centimeters in diameter to numerous pinpoint and pinhead calciferous foci in the lower extremity. In all projections where these foci were seen in profile they were superficially placed apparently just under the epidermis. There were no pathologic changes demonstrable in the bones. In anteroposterior and lateral roentgenograms of the skull no pathologic changes were visible. Dr. Caffey felt that these disseminated calciferous lesions in the skin warranted a roentgenologic diagnosis of "calcinosis universalis."

Laboratory Examinations.—Hemoglobin was 12.8 Gm., red blood cells numbered 4,600,000, white blood cells numbered 9,800, with 42 per cent polymorphonuclears, 52 per cent lymphocytes, 4 per cent monocytes and 2 per cent eosinophils. Chemical examination of the blood revealed nonprotein nitrogen 36.3, calcium 11.3 and phosphorus 5. Phosphatase was 8.9. The Kline test was negative. Tuberculin, 0.01 mg., gave a negative reaction.

DIAGNOSIS

The difficulty in making a clinical diagnosis of osteoma of the skin is admitted by all authors dealing with the subject. The diagnosis is usually established

Fig. 7.—Scattered cutaneous opacities in right upper extremity.

only after biopsy and subsequent microscopic examination. A stony, resilient, cartilaginous or calcareous consistency felt on palpation is frequently mentioned as the deciding factor in performing a biopsy. Roentgenograms may be of aid in the diagnosis as they show opaque shadows or structureless densities, thus detecting lesions which escape inspection and palpation.

Osteomas appear in both sexes and when found in the young are usually considered to be true osteomas. The scalp, forehead, cheeks and chin seem to be the more frequent locations, although they may occur on any part of the body. They may be present as solitary or multiple lesions, but a dissemination is infrequent. Their size may be that of a poppyseed or a large bean. Those described as plaques may measure several centimeters in diameter and usually consist of an aggregation of many bony nodules. The color of the lesions is not very characteristic, since they may be flesh colored, pearly, reddish, brown or purplish. Some lesions are raised above the skin surface, others are level with it. They may be round, oval or irregularly contoured but are usually sharply outlined. The surrounding skin is normal. The skin above the lesions may be atrophic or cicatrized. An inflammatory redness occurs, with spontaneous extrusion of bony particles.

Subjective sensation is absent and no tenderness is elicited in the uncomplicated case. Many of the patients seek medical advice only after the lesions have persisted for years and usually for cosmetic reasons or because of frequent traumatization.

Fig. 8.—Lobulated bony tumor of the left buttock.

Microscopic studies are indispensable in the diagnosis. This is the only means by which osseous tissue can be identified. In the differential diagnosis consideration must be given to calcinosis cutis and to secondary ossification.

Without exception all authors agree that surgical excision of the osteomas is the only successful therapeutic measure.

COMMENT

Many cases reported in the literature as true osteomas have not been accepted as such. Naegeli [10] accepts only 6 cases as true osteomas of those published up to 1935. The others he considers secondary ossifications.

Secondary ossifications following various pathologic processes of the skin are more frequent and are presumed to be metaplastic. They have been observed occurring in syphilitic and tuberculous granulomas, scleroderma, acne, lupus erythematosus, granulation tissue and scars, especially in those following laparotomies and burns. In this group also belong ossifications, which develop after trauma, hemorrhage, thrombosis and fat necrosis as well as in retention cysts, dermoids and in tumors such as lipomas and carcinomas. None of these ossifications should be regarded as congenital cutaneous anomalies.

The diagnosis of true osteoma may be accepted when it occurs in early life or when found in nevi and when not preceded by other pathologic changes in the skin. Here the microscopic examination may be of aid as far as it discloses the absence of a preceding pathologic condition. From the histologic morphology of the osseous tissue one cannot draw definite conclusions as to the primary or secondary nature of the osteogenic process.

Fig. 9.—Section of osseous tumor from muscle under low power showing cartilage, bone and marrow.

True or primary osteomas are believed to develop from dispersed embryonal cells. The possibility that osteomas may arise from displaced bone fragments has been mentioned in some of the reported cases. The bone tissue found in some mixed tumors and malformations are probably true osteomas. The theory has been advanced that cutaneous osteomas may be a form of atavism.

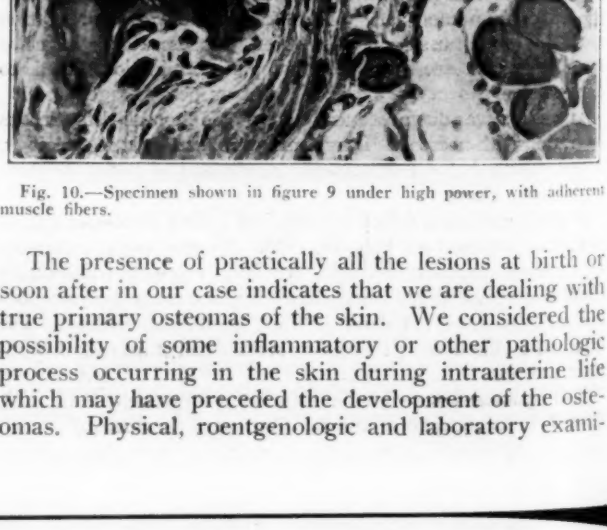

Fig. 10.—Specimen shown in figure 9 under high power, with adherent muscle fibers.

The presence of practically all the lesions at birth or soon after in our case indicates that we are dealing with true primary osteomas of the skin. We considered the possibility of some inflammatory or other pathologic process occurring in the skin during intrauterine life which may have preceded the development of the osteomas. Physical, roentgenologic and laboratory exami-

nation, however, did not disclose any systemic or cutaneous disease whatever. Furthermore, many lesions developed after birth and at no time were any other changes observed in the skin. It is obvious that the cutaneous osteogenesis in our case is of congenital nature, and it may be presumed that this resulted from dispersed embryonal osteogenic cells. This view is in accordance with Cohnheim's[18] theory of the endogenous origin of congenital tumors.

Correlating the microscopic morphology of the specimens examined with the clinical manifestations, it may be concluded that the tumors are congenital, disseminated, heterotopic and chondro-osteomatous. As the lesions are circumscribed they are to be considered nevi. The absence of preceding pathologic change indicated their primary character. Clinical observation showed that the tumors had the property of independent growth. Because of the extrusion of bony nodules and the presence of necrotic cystic changes within the osseous tissue of one of the specimens a careful examination for the presence of epithelial cells was made. Secondary ossification frequently occurs in the presence of keratinizing cells and sebum filled cysts. None were present.

Of hemorrhage, which may initiate calcification and ossification, there was no evidence. No extravasated red blood cells and no hemosiderin granules were seen. The tissues were, in fact, poor in demonstrable iron.

The osseous tumors appeared to arise in part from connective tissue elements. This intramembranous type of ossification one would expect to occur within the cutis. The fact is, however, that most of the osseous tissue appeared to be an endochondral bone formation.

In view of these observations, namely that the lesions originated during fetal life and that they were predominantly chondro-osteomatous, it should be remembered that there is a definite progression in the process of fetal ossification. Precartilaginous connective tissue is formed from a condensation of mesenchymal elements which are replaced by hyaline cartilage. The matrix of the cartilage becomes impregnated with calcium salts and is ultimately replaced by osseous or osteoid tissues. This progression is suggested by the histologic morphology of this case.

It would be simpler to explain the bone formation in our case by the more generally held hypothesis that all connective or supportive tissues are closely related and that each type may under certain conditions acquire the potentialities of the others. That is to say that collagenous connective tissue, cartilage, bone and fat are capable of such transformation. Cartilage cells lying within their matrix may contain fat globules. Bone cells grow as fibroblasts and may be transmuted in vitro or in vivo osteoblasts or chondroblasts under appropriate conditions.

As we demonstrated roentgenologically that the tumors bore no intimate relation to the tendons and joints and that in the histologic preparations there was no evidence of xanthomatosis, we rejected their sesamoid bone origin.

SUMMARY AND CONCLUSIONS

In an unusual case of congenital and disseminated osteomas of the skin in an infant the osteomas were seen immediately after birth on the scrotum and the trunk but were most numerous on the left lower extremity.

The osteomas in our case were considered as true or primary congenital tumors of the skin, originating presumably from the dispersion and displacement of embryonal tissue cells. They are to be regarded as one of the rare developmental abnormalities of the skin: bony nevi.

ADDENDUM

Since this paper went to print C. S., aged 2 years and 11 months, was readmitted to the Babies Hospital on June 8, 1945. A number of the cutaneous nodules had disappeared following extrusion of osseous fragments. Two months before readmission the mother noticed hard masses in the left popliteal region and the left buttock. These were deeply seated and had evidently involved the musculature. Examination disclosed that external rotation and extension of the left thigh were limited because of the mechanical interference of the tumor of the buttock. Although the child's usual activity was in no way impaired, the musculature of the thigh and buttock was diffusely and slightly atrophic and weaker than normal. No brachydactylia or other anatomic anomaly of the hands or feet was present. A roentgenogram revealed "a large irregularly calcified mass visible lateral and posterior to the hip joint" (fig. 8).

At operation the trilobate mass of the buttock proved to be "half again as large as represented by the x-ray shadow." There was no connection between this tumor and the femur; it was, however, adherent to the ischium. This attachment was not direct but only due to soft part connection, in the words of Dr. Harrison L. McLaughlin, the surgeon, "mainly by the origin of the hamstrings." The ossification involved "the external rotators of the hip and hamstring origins" and "probably the adductor minimus. The gluteus maximus was uninvolved." The lateral lobe of the tumor, about the size of a golf ball, was ablated and presented to Dr. A. P. Stout for pathologic examination. He found the specimen to be a "pyramidal piece of bone and cartilage." Dr. Stout's microscopic description follows:

> Sections showed that the nodule was made up of well differentiated bone containing marrow and masses of hyaline and fibrocartilage. Along one margin was a little striated muscle. The muscle did not appear to be included within the bony growth. All of the tissues were well differentiated and the foci of most active growth appeared to be signalized by the presence of large groups of capillaries.
>
> This picture is not exactly like the ordinary myositis ossificans, first, because cartilage is formed freely, and, second, because the process of ossification does not seem to enclose within itself isolated muscle fibers. It seems evident that this must be a case of profound disturbance of the bone and cartilage forming mechanism, which had resulted in the formation of bone and cartilage in the skin and in the muscle. The lesion more closely resembles progressive myositis ossificans than any other lesion with which I am acquainted. We will therefore tentatively classify it as such. Diagnosis: Myositis ossificans progressiva.

Rosenstirn,[19] in a case of myositis ossificans progressiva described "two very small spiculae of bone directly in the skin; one on the right arm near insertion of deltoid muscle in outer groove, the other in the popliteal fossa of the right leg." These were excised with the skin, and microscopic examination disclosed the presence of osseous tissue.

1070 Park Avenue, New York—32-20 35th Street, Long Island City, N. Y.—115 East 82d Street, New York.

18. Cohnheim, cited by Borst.[7]

19. Rosenstirn, J.: A Contribution to the Study of Myositis Ossificans Progressiva, Ann. Surg. **68:** 485-520, 591-637, 1918.

ABSTRACT OF DISCUSSION

DR. S. W. BECKER, Chicago: The authors have made an excellent presentation of an interesting and, fortunately, rare dermatosis, which has been designated "osteoma cutis" or "osteosis cutis." When I used the latter term in presenting the case of a woman with a large plaque on the scalp, I did so because the disorder was not considered merely as a neoplasm but rather as replacement, possibly atavistic, of connective tissue by true bone in a considerable area. The designation "osteoma" seems more appropriate for the small globular tumors as reported by Hopkins and others. I recently observed a woman aged 65 who presented tumors on each side of the chin which had been present for many years but had increased in number during the past year. They were firm and superficial, and the smaller ones had the whitish color of milia. When incised, stony resistance was encountered which signified the presence of calcium or bone. Microscopic examination of several masses which were shelled out showed that they consisted of osseous tissue. The location in an area which is often involved in comedones and cysts as part of acne vulgaris suggested preexistence of some such lesion. However, lack of a history of these and the age of the patient made such a sequence of events improbable. The diagnosis of osteoma cutis still rests on microscopic examination, and the only satisfactory treatment is surgical. The disorder is seen so seldom and the case reports are so different that, while the condition may be considered a definite entity, etiologic considerations are still conjectural. When bone formation follows calcification or occurs in tumors, abnormal conditions are apparent and are presumably causative. Whether the same abnormal conditions precede growth of bone in seemingly normal dermis is unknown.

EPIDERMOLYSIS BULLOSA IN THE NEWBORN

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EMMANUEL WILHELM, M.D.
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AND
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CHICAGO

Bullous syndromes in the newborn are not common except in epidemics of impetigo contagiosa (pemphigus neonatorum). The latter is comparatively easy to diagnose, and the usual therapy is successful. Proper prophylactic measures are immediately instituted once the diagnosis is made. The other bullous entities are rare and at times difficult to diagnose immediately, except in the congenital syphilids. A recent opportunity was afforded to study a case of congenital bullous eruption from birth to death. This was the third baby in the family with a bullous eruption and fatal outcome. A clinical diagnosis of epidermolysis bullosa was finally made. The histologic picture was considered by two dermatologists to be diagnostic of the syndrome and by a third with similarly large experience as a bullous syndrome that was compatible with this diagnosis but not diagnostic of it and possibly fitting in with a congenital ectodermal defect.

REPORT OF CASE

M. F. S., a boy baby weighing 8 pounds 4½ ounces (3,630 Gm.), was born Sept. 16, 1944 with bullae on the dorsal surface of the distal phalanx of each index finger. The hands were distended with clear fluids and had an erythematous areola. The baby was observed directly after birth because of the history of the mother that the two previous babies had died soon after birth, each having had a blister-like eruption. The parents had been observed three months before the birth of this baby and were found to be normal. Within eighteen hours after birth these bullae collapsed, leaving erythematous

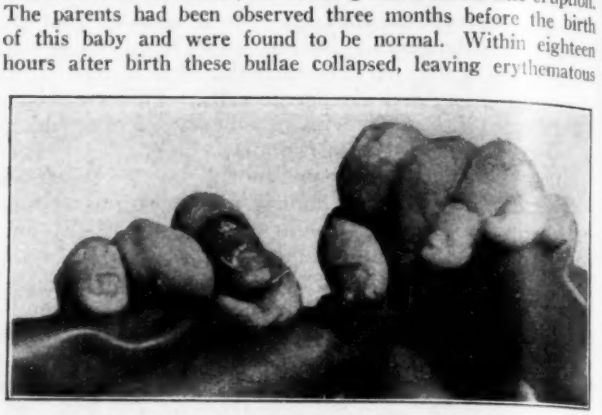

Fig. 1.—Baby's hands eighteen hours after birth.

borders (fig. 1). Small erythematous bullous lesions were now noted on the forehead and eyelids. The baby was given 3,000 units of penicillin intramuscularly every two hours, and a local application of penicillin, 250 units per cubic centimeter, was made to the lesions on the skin. The patient was afebrile at this time.

Artificial feedings were begun on the second day after birth.

Smears of the lesions about the eyes revealed gram positive diplococci, which on cultures were found to be nonhemolytic staphylococci.

The lesions seemed to improve temporarily with the penicillin, but by the fourth day they began to spread over the back in the right scapular region, buttocks, both knees and elbows, and eventually over the whole trunk. Penicillin dressings were discontinued ten days after birth, and 5 per cent sulfathiazole cream was used locally. Penicillin was given intramuscularly every three hours in doses of 1,000 units. Small repeated transfusions of whole blood were also given. Eventually the lesions were very extensive, involving the face, trunk and extremities, and they were then painted with 2 per cent gentian violet.

Approximately one month after birth, paronychia developed with the loss of fingernails and toenails. There was thought to be fairly good response to the gentian violet one week after its institution, the older lesions were drying and there were no new ones noted. A few days later the child began to have difficulty in retaining his formula, and difficulty in breathing was noted. Examination of the throat revealed numerous raised bullous lesions, with several collapsed bullae in the oropharynx. At 40 days of age he had an episode of respiratory

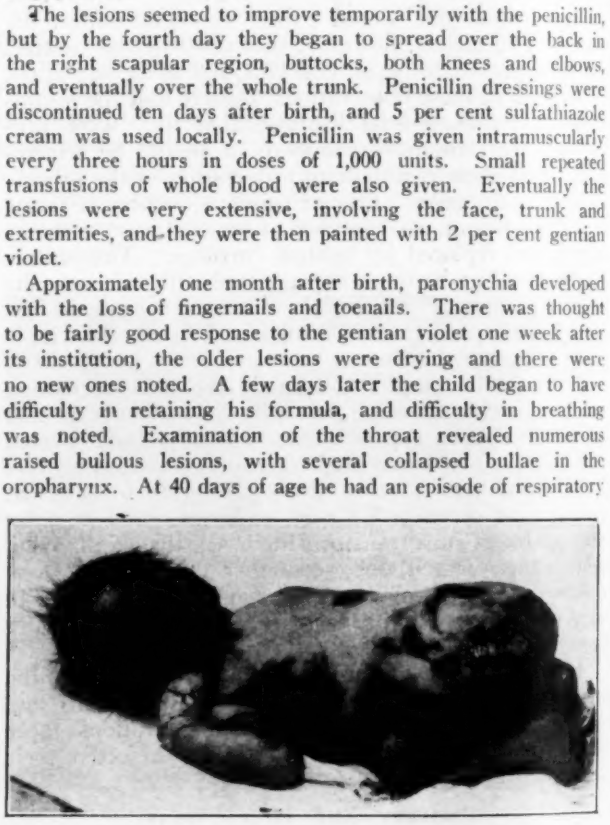

Fig. 2.—General involvement of the skin two months after birth.

obstruction, which was relieved by suction. This was thought to be due to inhalation and plugging by some of the sloughed bullae, as the oral cavity was now involved.

A phytotoxic test revealed 48 units, indicative of a toxic dermatosis possibly in the erythema multiforme group. The Nikolsky sign was negative and remained so. Photographs (fig. 2) of the patient were exhibited at the meeting of the

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Paper in a symposium on Congenital Disorders Involving the Skin, published under the auspices of the Section on Dermatology and Syphilology.

From the Departments of Pediatrics, Obstetrics, Medicine and Dermatology, Loyola University School of Medicine, 706 South Wolcott Avenue, and the Loyola University-Mercy Hospital Clinics, 2526 South Calumet Avenue.

Chicago Dermatological Society on November 15, and a very liberal discussion centered about the four most common possible syndromes, namely congenital epidermolysis bullosa, bullous erythema multiforme, impetigo contagiosa of bullous type and pemphigus vulgaris, and suggestions were offered for therapy.

Repeated small transfusions were again given, with transient improvement. At this time a biopsy was secured of new and old bullous lesions. Histologically there were areas of inflammatory hyperplasia at the sites of erosion. About this time the baby began to develop an intermittent type of fever, varying from 103 to 106 F. with corresponding increases in the pulse and respiratory rates. The course was progressively downward with the development of a subnormal temperature, until seventy-four days after birth.

At birth the blood examination showed 5,520,000 erythrocytes, 16.5 Gm. of hemoglobin and 17,600 leukocytes, with 56 per cent polymorphonuclears, 42 per cent lymphocytes and 2 per cent monocytes. A subsequent examination revealed 4,500,000 erythrocytes with 8,450 leukocytes and a differential distribution of 40 per cent polymorphonuclears, 51 per cent lymphocytes, 4 per cent eosinophils and 5 per cent monocytes. Near death the erythrocytes dropped to 3,850,000, with 10.5 Gm. of hemoglobin, 13,200 leukocytes and a differential count of 48 per cent polymorphonuclears and 52 per cent lymphocytes.

The family history revealed the mother to be 27 years old and apparently perfectly healthy. The father was 30 years of age and well except for a cataract of the left eye. There was no past history of tuberculosis, syphilis, diabetes, cancer, renal disease or blood dyscrasias. The maternal mother died of heart disease at 55 years of age. The mother had given birth to four other children, the first a boy, born July 31, 1935, who died of a ruptured appendix on Feb. 15, 1940; the second, a girl born on Oct. 26, 1936, who died of "congenital pemphigus" on Nov. 26, 1936; the third, a boy, born Aug. 9, 1939, who is living but has a bilateral inguinal hernia; the fourth, a boy born May 1, 1941, who died on May 30, 1941 of apparently the same disease that affected the second child and the patient described in this report.

The mother's puerperium was essentially negative after all these deliveries. She was examined periodically before the birth of this child, but no cutaneous abnormality was found. The father was examined and nothing found of any importance either generally or dermatologically.

An autopsy was performed. The baby was found to have, in addition to the widespread cutaneous eruption consisting of eroded areas and large dried bullae, pulmonary atelectasis and a patent foramen ovale. The body was characterized by dehydration and cachexia.

COMMENT

Davidson [1] recently reported a case of hereditary epidermolysis bullosa and reviewed the literature in great detail. In 1902 Luithlen [2] gave a comprehensive review of the subject up to that time, together with excellent descriptions of the two generally recognized types of the disease, the simple and the dystrophic. These descriptions may be summarized briefly as follows:

In the simple form the bullae appear on the skin after mechanical irritation or slight trauma. The disease is usually congenital; the lesions may be present at birth or may appear first from a few days to two or three years after birth. The mucous membranes are not affected, and the nails are not involved. The blebs heal without leaving scars, and there is no permanent alteration in the skin. The general health of the patient remains unaffected, although the disease may persist indefinitely. In some cases the tendency toward the formation of bullae ceases at a later age, often at puberty.

In the dystrophic form the hereditary nature of the disease is present but is not as pronounced as in the simple form. The condition usually persists through life. The bullae appear at or soon after birth, as in the first form, and arise after trauma. They are most apt to become hemorrhagic. In healing crusts and scabs are formed, resulting in permanent pigmentation and scarring. Occasionally, deep ulcerations occur, but usually the skin shows atrophy, wrinkling or an ectodermatic condition. The skin may be thickened and crusted, especially over the knees and elbows. Thickening may be due also to horny cysts embedded in the skin. These resemble milia and either are scattered over the surface or appear in circumscribed groups. The cysts may disappear spontaneously after several weeks, or they may persist indefinitely. Itching may precede the formation of bullae or may be absent. Extensive degeneration of the nails is a constant characteristic of this type. The nails may be absent at birth or be shed soon afterward. When present they are always thickened and deformed, lamellated and without luster. The buccal mucosa and the tongue show bullae, ulceration and leukoplakia, and there may be scarring of the lips. The tongue may be atrophic.

The observation of different investigators on the pathogenesis of hereditary epidermolysis bullosa shows considerable variation and contradiction. That there are a more or less constant reduction and degeneration of the elastic tissue of the skin is pretty well agreed. Practically all investigators believe that the bullae may be ascribed to a modified susceptibility or reactivity of the skin to injury, to an increased irritability of the integument which under normal conditions would result only in transient hyperemia. Some observers (Elliot,[3] Unna,[4] Torok [5]) express the opinion that there is a congenital irritability of the vascular system of the skin, with the result that the basal portion of the rete is bathed in a serous transudate, undergoes degenerative changes and finally becomes detached from the connective tissue. Others, particularly Engman and Mook, ascribed the formation of bullae to congenital absence of or defect in the elastic tissue of the papillary and subpapillary layers of the skin, with edema of the succulent horny layer and colliquation of many cells in the basal layers of the epidermis. These authors regarded the absence of elastic tissue as a primary phenomenon, while Beck and others believed that the disappearance of elastic tissue results from degeneration, which in turn is provoked by persistent edema of the upper part of the corium.

Finally in 1934, in a long and detailed paper, Herlitz [6] described a new, so-called lethal form of the disease which he termed "epidermolysis bullosa hereditaria letalis." He recognized the two main types previously described, i. e. the simple and the dystrophic form. Out of an extensive review of the literature, which was complicated by absence of uniform terminology and of strict criteria for diagnosis, Herlitz brought together 22 cases of the new forms: 8 of his own, 3 of Mautner's,[7]

1. Davidson, L. T.: Hereditary Epidermolysis Bullosa, Am. J. Dis. Child. **59**: 371 (Feb.) 1940.

2. Luithlen, F.: Epidermolysis bullosa hereditaria, in Mracek, F.: Handbuch der Hautkrankheiten, Vienna, Alfred Holder, 1902, vol. 1, p. 738.

3. Elliot, G. T.: A Further Contribution to the Histopathology of Epidermolysis Bullosa (Hereditaria), New York M. J. **71**: 585 and 625, 1900.

4. Unna, P. G.: Ueber die Duhringsche Krankheit und eine neue Form derselben, Dermat. Wchnschr. **10**: 97, 1889.

5. Torok, L.: Epidermolysis hereditaria bullosa (Koebner), Arch. f. Dermat. u. Syph. **47**: 402, 1899.

6. Herlitz, J.: Kongenitalein nicht syphilitischer Pemphigus: Eine Uebersicht nebst Beschreibung einer neuen Krankheitsform (Epidermolysis bullosa hereditaria letalis), Acta pædiat. **17**: 315, 1935.

7. Mautner, H.: Ueber ein familiar auftretendes, letales Krankheitsbild mit Blasenbildung (Pemphigus hereditarius), Monatschr. f. Kinderh. **22**: 15, 1922.

2 of Kuse's,[8] 7 of Jenny's [9] and 2 of Heinrichsbauer's.[10] The condition in the cases of this group differs from the classic, simple and dystrophic form in that it always leads to early death, which usually occurs before the third month. In no case was the duration longer than seven and one-half months. Herlitz's 8 cases occurred in three families, 4 in one and 2 in each of the others. In no instance had there been a previous case in any of the families, all of which came from the province of Uppland in Sweden and whose records went back to the beginning of the eighteenth century. The presence of extensive congenital cutaneous structures, especially the tendons and blood vessels, were readily visible through the transparent tissue. The Nikolsky phenomenon (rubbing off of the skin in the bath) was present but it was not possible to produce vesication by deliberate trauma, such as rubbing, pinching or bandaging. There were pronounced dystrophy and deformity of the nails, some of which were absent at birth or fell off soon afterward. In some cases these lesions progressed to involve severe skeletal atrophy of the terminal phalanges. Histologically there was degeneration of elastic tissue, the skin was thinner than normal and the sweat glands and hair follicles were rudimentary. The author differentiated this condition from congenital syphilis and from congenital pemphigus neonatorum.

The case here reported seems definitely to belong to the small group described by Herlitz,[6] which he called epidermolysis bullosa hereditaria letalis. The congenital cutaneous bullae on the two fingers at birth are typical of this disease. The subsequent involvement of the whole integument and the mucous membrane of the mouth, tongue and pharynx, the rapid and widespread formation of bullae, with secondary infection and constitutional debilitation resulting in early death, are characteristic of the so-called lethal form of hereditary epidermolysis bullosa.

SUMMARY

Bullous eruptions in the newborn (save for impetigo contagiosa) are uncommon. Epidermolysis bullosa can occur and, in the lethal form, bullae arise irrespective of trauma or irritation. The eruption is progressive and soon is fatal, irrespective of therapy.

ABSTRACT OF DISCUSSION

DR. RUBEN NOMLAND, Iowa City: Several years ago I had the opportunity of observing a case almost identical with that of the authors and I believed it to be the lethal form of epidermolysis bullosa. The skin of a newborn baby slipped off in large areas during delivery. Subsequently many spontaneous blisters formed and the infant died. Postmortem examination revealed nothing of significance except for the skin, in which the epidermis was separated from the dermis. In the newest blisters the papillae at the floor of the blister projected into the blister cavity and the corresponding rete pegs projected downward. This would indicate that the essential pathologic condition was that of lack of cohesion between the dermis and epidermis. I do not believe that the loss of elastic tissue is the most important factor in this separation. First, blisters do not occur in those diseases in which there is loss of elastic tissue, the best examples being idiopathic atrophy and the various forms of scleroderma. Second, personal examination of several cases of epidermolysis bullosa, particularly with connective tissue stains such as Van Giesen's, has shown that in this disorder the collagen fibers are less firmly attached to the basal cells and rete pegs than in normal skin. The lack of cohesion between the dermis and the epidermis in epidermolysis bullosa is seemingly connected with loss of elastic tissue, abnormal connections between the connective tissue of the dermis and the basal cells, and probably other abnormalities not yet recognized.

8. Kuse, K. H.: Ein Beitrag zum Krankheitsbild des Pemphigus hereditarius, Monatschr. f. Kinderh. **42**: 513, 1929.

9. Jenny, E.: Ueber eine letal verlaufend Form von Epidermolysis bullosa hereditaria beim Saugling, Ztschr. f. Kinderh. **43**: 138, 1927.

10. Heinrichsbauer, F.: Ein weiterer Beitrag zur Frage angeborener Hautdefekta (ueber ein familiares letals, Krankheitsbild mit Blasenbildung und angeborenen Defekten der Haut), Arch. f. Gynäk. **134**: 673, 1928.

THE TREATMENT OF EXTERNAL HERNIAS CONTAINING GANGRENOUS BOWEL

NEW METHOD UTILIZING THE MILLER-ABBOTT TUBE

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AND
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Dr. Emory G. Alexander [1] in 1913 in a paper on strangulated hernia wrote "It is strange that in the past two decades of progressive surgery, an era unparalleled by great strides made in the art of diagnosis, operative technic and after-treatment—to say nothing of the help obtained by educating the public to surgical conditions—little has been done either directly or indirectly to lower the death rate of this condition." The results of the treatment of strangulated hernia are no better in 1945 than in 1913. A review of reports on strangulated hernia, published since 1913, shows that the results of treating this condition are as poor now as they were then; in fact, the death rate is about as high today as it was in the days of preaseptic surgery.

Many ingenious methods have been proposed for the cure of patients having gangrenous bowel in external hernias. The accompanying diagrams illustrate all these of which we have been able to find descriptions.

These methods have serious drawbacks. Several of them make necessary division of Poupart's ligament in order to reduce gangrenous, friable intestine. The permanent disability which this may cause has been passed off too lightly in the literature. Some of them make necessary the anastomosing of collapsed bowel to distended and obstructed bowel in a patient in poor general condition because of dehydration, starvation and bowel distention. The methods which require an enterostomy of some kind are unsatisfactory and dangerous. Introduction of an enterostomy tube through the femoral canal by way of the lumen of the gangrenous bowel is dangerous, and it may dislodge the gangrenous bowel or perforate it. It may enter the bowel distal to the obstruction. It may not relieve the obstruction even when it enters the distended bowel, because bowel which has been distended for a long time will not recover its power to contract short of five or six days.[2]

The tube will therefore drain only the loop of distended bowel immediately proximal to the hernia. All of these methods are unsatisfactory because they are followed by death in too many cases.

The senior author in 1942, called to treat a healthy, obese woman of 68 for a femoral hernia, strangulated for five days, thought of the plan of treatment described in this paper. This plan, briefly, consists of three parts:

1. Incision of the hernial sac together with the gangrenous bowel within it.

1. Alexander, E. G.: Strangulated Hernia: Report of 105 Cases, Ann. Surg. **58**: 639, 1913.

2. Battersby, J. S., and Gatch, W. D.: Two Stages of Bowel Distention, Arch. Surg. **44**: 108 (Jan.) 1942.

2. Deflation of the obstructed bowel down to the point where it is obstructed at the hernial ring with a Miller-Abbott tube. This restores it to a healthy condition and permits giving the patient liquids and soft foods by mouth, thus correcting starvation and dehydration.

3. Laparotomy done after the tube has been down for about a week through a low, paramedian incision; excision of the gangrenous bowel, and intestinal anastomosis; plugging of the femoral ring with omentum stitched to it; treatment of the abdominal wound with sulfathiazole after closure of the peritoneum.

Methods and Results of Treating External Hernias Containing Gangrenous Bowel

Subject	Author	Year	Cases	Deaths	Mortality, Per Cent
.....	Henggeler	1891-1894	12 resections or sutures	8	66
.....	Bundeschuh	1890-1891	14 enterostomies	10	71
.....	Statistics of Henggeler and Bundeschuh reported by von Gabathuler, A.: Schweiz. med. Wchnschr. **59**: 855, 1929		24 resections	8	33
Radical cure of femoral hernia.....	Coley, W. B.: Tr. Am. S. A. **24**: 402, 1906.....	1906	4	2	50
100 operations for acute intestinal obstruction and gangrenous hernia	Gibson: Ann. Surg. **32**: 486, 1900.....	1900	354 gangrenous bowels	120	34
Gangrenous femoral hernia.....	Becker: Deutsche Ztschr. f. Chir. **176**: 281, 1922	1922	17 resections	4	29
			5 sutures	2	40
			2 exteriorizations	0	0
			24	6	
2,468 hernia operations.....	Hoguet: Surg., Gynec. & Obst. **37**: 71, 1923....	1923	1 resection	1	100
.....	Springer, as reported in Arch. Surg. **45**: 785, 1942	1924	.....	..	50.4
			4 inguinal	3	75
			8 femoral	5	63
			4 others	1	25
			16	9	56.3
Strangulated hernia.....	Frankau: Brit. J. Surg. **19**: 176, 1931.....	1931	(inguinal)		
			2 exteriorizations	1	50
			10 drain loops	7	70
			16 sutures	4	25
			33 resections	16	50
			61	28	45
			(femoral)		
			2 exteriorizations	2	100
			4 enterostomies	1	25
			11 drain loops	10	91
			40 sutures	5	12.5
			59 resections	22	39
			116	40	34
			(umbilical)		
			13 resections	7	55
			15 enterostomies	15	100
			8 sutures	5	63
			213	95	44
Obstruction of bowel by strangulation	Mclver: Am. J. Surg. **20**: 171, 1933.....	1933	8 femoral	4	50
			5 inguinal	2	40
			5 umbilical	5	100
			1 epigastric	..	0
Strangulated hernia.....	Bowers: Ohio State M. J. **31**: 28, 1935.....	1935	5	4	80
Treatment of strangulated external hernia	Cody: J. Iowa M. Soc. **26**: 238, 1936.....	1936	.....	..	50
Strangulated hernia.....	Fulton: M. J. Australia **1**: 73, 1938.....		8 resections	5	63
			5 exteriorizations	5	100
			1 closed; inoperable	1	100
Diagnosis and management of strangulated femoral hernia	Dunphy: J. A. M. A. **114**: 398, 1940.....		20 (?)	10 (?)	50
Strangulated hernia.....	Douglas: Brit. M. J. **1**: 355, 1942.....	1942	7 resections	2	29
			2 gangrenous at autopsy	2	100
Diagnosis and management of incarcerated femoral hernia	McNealy and others: Surg., Gynec. & Obst. **74**: 1005, 1942	1942	18 resections	9	50
			11 exteriorizations	9	81
			4 sutures	2	50
Strangulated hernia.....	Hay: Canad. M. A. J. **49**: 46, 1943.....	1943	6 resections reported	6	100
			1 3d stage	1	0
100 cases of strangulated femoral hernia	Adelaide: Lancet **1**: 705, 1943.....	1943	12 resections	8	66

The method has proved simple and safe by clinical trial. Patients in a moribund condition can be cured by it. It corrects the systemic derangements due to bowel distention. It restores the bowel to a healthy condition, so that the anastomosis is safe. It spares Poupart's ligament and makes possible the immediate cure, we believe in most cases, of the hernia.

The only cogent objection to the method is that it exposes the patient to the danger of general peritonitis from separation of the living from the gangrenous bowel at the femoral ring. Experience shows that this is not likely to occur. We have found the living bowel firmly attached to the femoral ring in all of our patients. A possible objection is that it may be impossible to pass the Miller-Abbott tube. We have not had any difficulty doing this because of the skilful help of our roentgenologists, who have had but six failures to pass the tube in over 100 unselected cases of bowel obstruction.

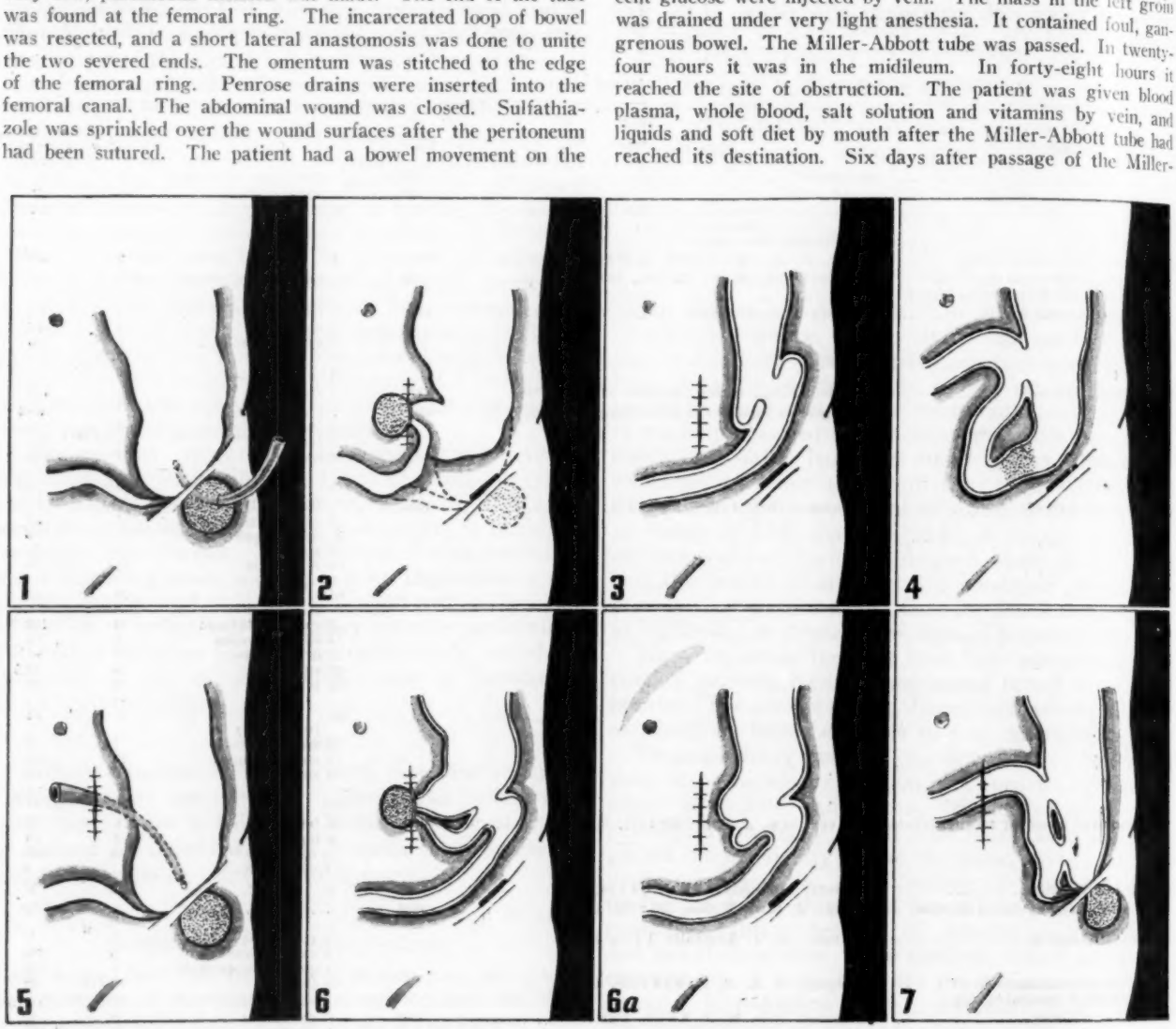
REPORT OF CASES

CASE 1.—*History.*—Mrs. R. B. S., aged 68, was admitted to Robert Long Hospital on Nov. 4, 1942 because of the appearance, three days before admission, of a mass in the right groin. Persistent vomiting had ensued. No bowel movements occurred following numerous enemas and administration of castor oil and other cathartics.

Examination.—The patient was acutely ill, her face brick dust color, her tongue dry, her skin loose. The abdomen was distended, everywhere tympanitic and silent. The skin of the abdomen was blistered by hot applications. There was a large, acutely tender swelling in the right groin. The skin over this was fiery red and edematous. The pulse rate was 86, the respiratory rate 26, the temperature 99.6 F., the blood pressure 138/70 and hemoglobin 13.5 Gm. Red blood cells numbered 4,500,000, white blood cells 16,400.

Treatment and Result.—The patient was given a preliminary injection by vein of isotonic solution of sodium chloride and

glucose. An incision was made parallel to and below Poupart's ligament over the most prominent portion of the swelling. The bowel was found totally gangrenous and foul. Penrose drains were inserted. A Miller-Abbott tube was passed a few hours after operation. This was in the jejunum in forty-eight hours and had reached the site of obstruction in seventy-two hours. The patient was given liquids and soft foods by mouth for seven days. She was then operated on for the second time. A short, very low, paramedial incision was made. The end of the tube was found at the femoral ring. The incarcerated loop of bowel was resected, and a short lateral anastomosis was done to unite the two severed ends. The omentum was stitched to the edge of the femoral ring. Penrose drains were inserted into the femoral canal. The abdominal wound was closed. Sulfathiazole was sprinkled over the wound surfaces after the peritoneum had been sutured. The patient had a bowel movement on the fifth day after operation, and the Miller-Abbott tube was removed on the eighth day after the operation. The patient's postoperative course was complicated by a superficial wound infection and by a stomatitis and parotitis. We believe that the stomatitis was caused by a vitamin deficiency, since it promptly receded after administration of nicotinic acid. Both wounds had completely closed by November 17.



Methods of treating gangrenous bowel in external hernias:

1. Enterostomy done by opening down to gangrenous bowel and inserting catheter into proximal loop. The hernia is not reduced until a later, second operation, when anastomosis is done.
2. Gangrenous bowel in hernia is reduced and exteriorized through an abdominal incision. Anastomosis later.
3. Primary anastomosis done immediately either through femoral canal or through abdominal incision.
4. Questionable bowel is reduced and a short circuiting anastomosis is done.
5. Enterostomy is done through abdominal incision with catheter placed in proximal dilated bowel.
6. (Combination of 2 and 4.) Exteriorization of gangrenous bowel through abdominal incision, with short circuiting anastomosis.
6a. Following procedure 6, the blind loops of bowel together with the gangrenous tissue are resected and the ends are turned in.
7. Gangrenous hernia is unreduced, and a short circuiting anastomosis is done through abdominal incision.

CASE 2.—*History.*—Mrs. E. S., aged 63, was admitted to Robert Long Hospital on Nov. 9, 1942 because of a tender, swollen mass which had appeared in the left groin five days before. Its appearance had been followed by cramping, epigastric pain, nausea and vomiting. No bowel movements had occurred since the day of onset despite enemas and cathartics.

Examination.—The patient was a very obese woman, acutely ill and severely dehydrated. The pulse rate was 110, the respiratory rate 28, the temperature 100.2 F., the blood pressure 140/75 and hemoglobin 15.5 Gm. Red blood cells numbered 7,790,000, white blood cells 10,800. The abdomen was distended, tympanitic and silent.

Treatment and Result.—To empty the stomach, a Levine tube was passed. Isotonic solution of sodium chloride and 5 per cent glucose were injected by vein. The mass in the left groin was drained under very light anesthesia. It contained foul, gangrenous bowel. The Miller-Abbott tube was passed. In twenty-four hours it was in the midileum. In forty-eight hours it reached the site of obstruction. The patient was given blood plasma, whole blood, salt solution and vitamins by vein, and liquids and soft diet by mouth after the Miller-Abbott tube had reached its destination. Six days after passage of the Miller-Abbott tube the second operation was done as in case 1. The tube was left in place for six days more. Convalescence was complicated by a mild thrombophlebitis in the left leg. The inguinal incision healed without noteworthy infection. The patient was dismissed on Jan. 17, 1943.

CASE 3.—*History.*—Mrs. H. T., aged 86, was admitted to St. Vincent's Hospital on March 10, 1945 because of the appearance of a mass in the left groin about three weeks before. This had caused considerable pain but had apparently not caused bowel obstruction until about six days before admission, when the mass suddenly increased in size, and the patient began having cramping, abdominal pain and vomiting. Her condition had become steadily worse.

Examination.—The patient was emaciated and was desperately ill. The abdomen was distended and everywhere tympanitic. The pulse rate was 104, the respiratory rate 22, the temperature 99 F. A large, acutely tender mass was present in the left groin. The skin over this was red and edematous.

Treatment and Result.—A preliminary injection of isotonic solution of sodium chloride and glucose was made. Under local anesthesia the hernial sac was incised and drained. It contained gangrenous bowel together with several ounces of soft, yellow fecal material. A Levine tube was passed. The passage of the Miller-Abbott tube was delayed for two days because we thought the patient had a spontaneous fecal fistula. When it became evident that this was not true, the Miller-Abbott tube was passed. This was difficult because of a cardiospasm, which had to be overcome with mercury bougies before the tube would enter the stomach. Once the tube was started, however, its progress was very rapid, and it reached the region of the left femoral ring in about thirty-six hours.

The general treatment of this patient was identical to that described in cases 1 and 2, but at about the time we were considering performing excision of the gangrenous bowel and anastomosis, the patient began to pass flatus and liquid material by rectum. Shortly after this we were able, by the injection of barium, to demonstrate that nature had in some way performed an anastomosis between the obstructed and collapsed portions of the bowel. The patient had had a number of loose bowel movements prior to this examination. We discovered, greatly to our astonishment, that the tube had passed through the newly formed anastomosis and had reached the middle of the transverse colon! The tube was removed, and fifteen days after admission the patient was up and about in her room.

We account for the almost incredible outcome in this case as follows: The small intestine had evidently been incarcerated in the femoral hernia for a period of over three weeks. During this time it is probable that the efferent and afferent portions of the bowel had become adherent where they were in contact. Following this, as the result of the passage of gas and intestinal contents into the incarcerated bowel, this became gangrenous. The gangrenous bowel then became separated from the living bowel, and nature performed an anastomosis between the two ends of living bowel.

Von Mátyás Mátyás [3] described a method of treating these cases which consisted in freeing the incarcerated loop of bowel from the femoral ring—usually by division of this ring—followed by the making of a gun barrel enterostomy through the femoral canal. He placed drains around the two barrels of the enterostomy to prevent their retraction. He reports that in 3 cases this procedure was followed by a spontaneous anastomosis between the two ends of bowel. This must have happened in the case under consideration.

COMMENT

All the patients on whom we have used this procedure had femoral hernias. It should be applicable, however, to the treatment of strangulation obstruction in other external hernias. It should be very useful in the management of umbilical hernias containing strangulated pieces of bowel. We have observed 1 case of this condition, untreated, in which nature had performed a gun barrel enterostomy. An abscess which formed in the hernial sac had ruptured spontaneously.

The high death rate for external hernias containing gangrenous bowel is due to errors in treatment which are avoided by the method we have described.

1040 West Michigan Street, Indianapolis 7.

3. von Mátyás, Mátyás: Chirurgische Verfahren bei vernachlässigten inkarzerierten Cruralhernien, bei welchen die Resektion nicht durchgeführt werden kann, Zentralbl. f. Chir. **63**: 1754, 1936.

Clinical Notes, Suggestions and New Instruments

PENICILLIN IN THIOURACIL-INDUCED AGRANULOCYTOSIS

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Although to date no satisfactory reports of isolated organisms in cases of agranulocytosis have been published, death appears to be due to superimposed infection. This clinical impression has been strengthened by some recent reports of the therapeutic value of penicillin in the treatment of agranulocytosis.[1] Several months ago we ourselves experienced highly satisfactory results with penicillin in treating a case of agranulocytosis of unknown origin, incident to a septic sore throat, after all other known agents such as transfusions, pentnucleotide and liver therapy had failed. The consensus at present indicates that the septic process, which in itself tends to depress granulocytic maturation, is successfully controlled by penicillin.

Our interest in agranulocytosis has been stimulated by our continued study of thiouracil in the treatment of hyperthyroidism.[2] Though we were fortunate enough to treat our first 60 cases without encountering this serious complication, the expected reaction has been observed by us since publication of our paper. The dramatic response to penicillin of thiouracil-induced agranulocytosis prompts us to note the following case report:

REPORT OF CASE

A woman aged 52 presenting a classic picture of hyperthyroidism, with enlargement of both lower lobes of the thyroid gland and symptoms of five months' duration, was started on a daily dose of 0.6 Gm. of thiouracil. Twelve days later her basal metabolic rate had fallen from plus 85 per cent to plus 18 per cent, her blood pressure had dropped from 170/80 to 140/80, she felt less tired and nervous, and she had gained 6 pounds (2.7 Kg.). Her white blood cell count at that time was 7,750, with a normal differential. Medication was continued unchanged until five days later, when her differential showed 45 neutrophils, with a white blood cell count of 4,000. Thiouracil was stopped immediately. Thirty-six hours later she presented a typical picture of agranulocytosis, with a temperature of 104 F. and a white blood cell count of 2,400, with 2 band cells and 2 segmented neutrophils; this was substantiated by a sternal puncture. On admission to the hospital, penicillin therapy was instituted in doses of 20,000 units administered every three hours. In addition, supportive measures in the form of a transfusion of 500 cc. of whole blood and daily injections of 2 cc. of crude liver were given. Twelve hours later the temperature had dropped to 100 F. and the blood smear showed 8 segmented neutrophils and 12 band cells. Thirty-six hours after the institution of penicillin therapy the white blood cell count had risen to 5,300, with 33 segmented neutrophils and 20 band cells. On the third day the count showed 7,300 white blood cells, with 49 segmented and 7 band cells. The temperature reached normal on the fourth day, and penicillin was discontinued at that time, after the total administration of 560,000 units.

COMMENT

We have presented the report of a case of an agranulocytic reaction due to thiouracil in which early and vigorous penicillin therapy prevented generalized sepsis. We hope that the report of our experience will stimulate workers to the prompt use of this drug in other cases of granulocytic depression.

1130 Park Avenue.

From the Hospital for Joint Diseases.

1. Meredith, W. C.; Douglas, A. H. R., and Fink, Harold: Penicillin in Malignant Granulocytopenia, U. S. Nav. M. Bull. **43**: 1017-1019, 1944. Smith, L. B.; Cohen, Frank, and Nichols, R. G.: Agranulocytosis Treated with Penicillin, J. A. M. A. **126**: 1027-1029 (Dec. 16) 1944. Sprague, H. B., and Ferguson, L. K.: Agranulocytosis Treated with Penicillin, U. S. Nav. M. Bull. **43**: 1014-1016, 1944.

2. Vorhaus, M. G., and Rothendler, H. H.: Thiouracil in Hyperthyroidism, New York State J. Med. **45**: 1087-1093, 1945.

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SATURDAY, NOVEMBER 10, 1945

THE NATIONAL SCIENCE FOUNDATION

For some weeks hearings have been held by the subcommittee of the Committee on Military Affairs of the U. S. Senate on the proposals to create a National Science Foundation, a government agency to be charged with encouragement of scientific research. Several measures have been presented to the Congress to effectuate this objective. Their number and diversity indicate the difficulty of finding the best possible formula. Care is necessary if the objects sought are to be achieved without permitting domination of research by a federal bureaucracy and inhibition of private initiative or the spending of vast funds without adequate return. The work of the Committee on Medical Research and of the Office of Scientific Research and Development during the war proved that funds can be used satisfactorily to encourage research and to coordinate and intensify the speed with which the results of research can be applied. Much was accomplished toward diminishing the lag between the introduction of a new remedy and the determination of its toxicity and its field of usefulness.

Fundamental to the creation of the National Science Foundation is its structural organization. With but few exceptions, leaders of science who appeared in the hearings approved an organization which would be under the control of a directing board which would have as an executive officer a director whom the executive board would nominate to the President. The director would be responsible for administration of affairs of the National Science Foundation, but policies would be determined by the directing board and it would have the responsibility for selecting the universities, hospitals, institutes of research and other agencies to which grants could be made.

Under the directing board would be a number of subsidiary boards dealing with such subjects as the national defense, medicine and the basic sciences. Possibly there might be, in accordance with the recommendation of President Truman, a division for the social sciences, although the point has been made that much research in the field of the social sciences is developed and promoted primarily with a view to securing political and legislative action. The social sciences are themselves so young and their technics at present so experimental and so poorly controlled as to indicate some doubt as to whether or not their development has proceeded sufficiently to warrant incorporation at this time in the proposed agency.

Great care must obviously be exercised as to the technic by which various federal agencies, such as the War, Navy, U. S. Public Health Service, maternal and infant welfare and similar groups are coordinated with the National Science Foundation.

Again the question of patents is introduced by some of the legislative proposals for the creation of the National Science Foundation. A majority of those who participated in the hearings are convinced that the whole question of patents requires far more study than is now being given to it and that patents might well form the subject of subsequent action, perhaps with the recommendation of the directing board once the agency is established.

Among the best possible activities to be conducted by the proposed National Science Foundation is the creation of fellowships, residencies, traveling scholarships and similar positions to be subsidized with the aid of federal funds. By this technic young men of promise may be given opportunity to show their worth and thus far more competent scientists mobilized in the field of research.

Another function is the encouragement of national and international exchange of scientific and technical information. Unquestionably progress was intensified during the war by the interchange of medical information between the medical research councils of Great Britain, Canada and our own country. In the postwar period a similar organization might involve inclusion of all the nations of the world, perhaps with the aid of a suitable health section developed under the organization of the United Nations.

By the system which prevailed during the war, invaluable time was saved in extending the uses of penicillin and in promoting its manufacture on a large scale and its availability at a small cost. The number of lives thus saved is tremendous, indeed incalculable. Similar investigations in the uses of the sulfonamide drugs, in the development of the uses of blood and the various derivatives of blood and investigations in the treatment of burns, in the control of malaria and many tropical disorders, in diet and in nutrition have brought fruitful results by the utilization of a well coordinated and intensified program of study.

The Board of Trustees of the American Medical Association and a special committee representing the American College of Physicians, the American College of Surgeons and the American Medical Association through the Committee on Postwar Medical Service have recommended enactment of a suitable measure for the creation of a National Science Foundation. As Torald Sollmann has said, "Research is a bird that sings only when it is free. Discovery requires the broadest possible liberty to search in as many places as possible, by as many competent scientists as possible, in any manner and any means that they themselves consider possible." In the structural organization of the proposed National Science Foundation the recommendations of the Magnuson Bill (S. 1285) seem to approach more nearly the type of structure that would achieve the objective sought and conserve the factors of private initiative and liberty that have given the United States a place in the sun where scientific research is concerned.

TOXICITY OF DDT

In order to find a standard cell system for a study of the effects of DDT, Lewis and Richards [1] of the Wistar Institute, University of Pennsylvania, made numerous tests of the possible toxic action of DDT on in vitro tissue cultures. In their preliminary tests a small drop of saturated alcoholic or acetone solution of DDT was allowed to dry on a cover glass. Hanging drop cultures of heart, brain, intestine and spleen from seven to eight day chick embryos or one day rats were set up so as to include the dry DDT. During the seven day observation period the cell growth, migration and mitosis of fibroblasts, entoderm and macrophages were not appreciably different from those in control cultures without DDT. As they moved about in the cultures living fibroblasts often touched or even migrated over DDT crystals without appreciable injury.

This apparent nontoxicity was confirmed with several series of roller tube cultures of heart, liver, kidney, stomach, intestine, skeletal muscle, brain and spinal cord, enough crystals of DDT being added to all but the control tubes to get a saturated solution with many crystals left over. In all cases the outgrowth of fibroblasts, macrophages, entoderm, liver cells, kidney epithelium, nerve fibers and muscle fibers were identical in the DDT and control tubes during the ten to twenty-one day observation period. There was no indication that the DDT had any toxic effects on the cells.

Similar tests were made with a quick killing emulsion consisting of 1 per cent DDT in 9 per cent olive oil, 1 per cent gum arabic and 90 per cent saline solution. Intracardiac injection of this emulsion killed mice within from forty-five minutes to seventy-six hours, control injections of DDT-free emulsions being nontoxic. Added to roller tube cultures of heart, kidney, stomach, intestine, liver, muscle or nerve fibers, however, the DDT emulsion produced no demonstrable toxic effects.

The seeming paradox of the lethal effects of DDT when administered to intact animals as contrasted with its nontoxicity for individual tissue cells is now under investigation.

1. Lewis, W. H., and Richards, A. G., Jr.: Science **102**: 330 (Sept. 28) 1945.

MATERNAL AND CHILD WELFARE: THE PEPPER BILL

Senate bill 1318, to make more adequate provision for the health and welfare of mothers and children and for services to crippled children, has not yet reached the stage of hearings. The bill is called the "Maternal and Child Welfare Act of 1945." Grants by the federal government to the states for encouraging preventive medical services and for aiding the crippled and for promoting maternal and infant welfare are now incorporated in our scheme of government. Under the E. M. I. C. program that prevails as a war measure, the chief of the Children's Bureau controls a bureaucracy that functions in a totalitarian manner and without any of the restraints that should be developed in a democratic system of government. The present measure would perpetuate and expand this dangerous invasion of the field of medical care. The director chooses his or her own advisory boards and is not under any compulsion to pay the slightest attention to the recommendations of these boards. In the past such recommendations have been occasionally disregarded. In some instances members have been prevented from giving any publicity to the considerations of the board. Actions have been taken without any public announcement of the proposals to be followed. In many other ways the democratic process has been disregarded.

Without an adequate study as to the needs of the individual states for maternal and infant services and the ability of the states to meet these needs, accurate determination of funds required is not possible. The proposals of the Hill-Burton bill, by contrast, require that each state create a special agency to be concerned with the construction of hospitals, health centers and diagnostic laboratories and that an adequate study of the need be made with the submission and approval of the plan in a public hearing before any grant is made. Under the proposed S. 1318 funds can be spent simply on approval by the chief of the Children's Bureau of any plan that any state submits. In the past, states have been told by the directors of federal bureaus the kind of plans they must submit before they even began thinking of drawing up plans.

Section 103 of the new measure discusses further the approval of state plans. No limitation of any kind is made as to those who would be entitled to governmental or state aid. The bill simply proposes to grant maternal and infant care and care of the crippled to

anybody in the state who applies. In the words of the bill, "services and facilities . . . shall be available to all mothers and children who elect to participate in the benefits of the program." If every mother and child elect to participate, the funds obviously are completely inadequate. The federal government might be asked to provide for the complete cost of maternal care to between 3,000,000 and 4,000,000 mothers annually and for the complete medical care of all children up to the age of 21 years. Assuming a total each year of 4,000,000 cases of maternal care, including children born, stillbirths, abortions and miscarriages, at a minimum cost of $50 per case, $200,000,000 a year would be required for that purpose. This would not include the costs of hospitalization. Assuming in the United States 50,000,000 children under 21 years of age, with an average cost per child of $10 a year for care, the total would be $500,000,000, making the amount necessary for appropriation for this care $700,000,000 annually. Adding the costs of hospitalization might involve another 400,000,000 dollars. Unless some restriction is placed on the services to be rendered and the persons to whom they are to be rendered, the government is placed in the position of taking over completely the care of mothers and children and at an annual cost of more than one billion dollars without any special taxation to meet the purpose. This bill would apparently extend the provision of the Social Security Act without increasing the taxation under the Social Security Act for the purposes it intends to serve. And to all of this must be added many millions more as the cost of administration.

By the proposals of part 6 of section 103, as indicated on page 5, maternal and infant care and the care of the child both healthy and crippled would be standardized on a low basis. Such an action would inhibit progress in the care of mothers and children and would, in fact, depreciate the quality of the service rendered. The service given would be service to meet a fixed fee and not the best possible service that should be given according to the needs of the individual patient. Part 8 of this section provides for the introduction of the innumerable forms and reporting systems that bureaucracies require, placing on the medical profession a burden that results in making the form more important than the service rendered.

Part 10 suggests that the same general advisory council shall serve in the state both the maternal and child health and crippled children's programs, which means the establishment of councils that would lack in expert knowledge, since the problem of the crippled child requires a type of expert knowledge quite different from that concerned with the maternal and child health.

Section 104, which concerns payment to states, provides for simple matching appropriations which fail to take into account that many of our states are quite capable of handling their entire maternal and infant care problem for themselves; other states require federal aid far beyond anything that the state is able to match.

Most pernicious in the entire measure is the provision for federal advisory committees. The chief of the Children's Bureau appoints his own advisory committee, which means that he appoints a committee that will do what he says. If he does not like what the committee does, he may encourage resignation and get another committee. Chiefs of bureaus have not in the past hesitated to enforce secrecy on members of their advisory committees as to publicity given to their considerations. A conference of state health officers is provided for also. The vast majority of the interest of the bill is in medical care; medical care is a physician's problem, not primarily a problem of public health officials. The committee of the Congress which reported out the Hill-Burton bill required that public health centers be not concerned with medical care.

In offering services for crippled children, the measure fails to take into account the varying definitions of crippled children that prevail in individual states. In some states a child with rheumatic fever is considered a crippled child; in other states it is not. The public annually provides through its contribution to the National Foundation for Infantile Paralysis, Inc., some $15,000,000 to be used in research and locally for the care of the crippled child. Proposals are now being made to collect $5,000,000 for Sister Kenny's fund. A survey conducted some years ago shows that there are almost a thousand different voluntary organizations for the care of the crippled in the United States, all of them collecting funds from the public for this purpose and all of them having thereby a personal philanthropic interest in the problem. Entrance by the federal government on a large scale such as proposed in this measure for the care of the crippled will depreciate and eliminate the public's interest through these volunteer organizations and thereby probably do more harm than good. Means should be found for coordinating the various activities now existing for the care of the crippled. The state should aid, but the state should not eliminate private philanthropic effort.

For the crippled as for maternal and child care, this law would make the chief of the Children's Bureau a virtual dictator over the care of the crippled in the United States. The federal advisory committees in relation to the care of the crippled are, as with those in maternal and child care, simply tools of the chief of the Children's Bureau.

The Maternal and Child Care Act of 1945 appears to THE JOURNAL to be a hastily conceived, potentially dangerous, piece of legislation. The objectives it seeks to reach are desirable. The proposed measure would not obtain those objectives and would destroy much that has already been done toward their accomplishment.

Current Comment

THE NOBEL PRIZE AWARDS

Sir Alexander Fleming of London and Sir Howard W. Florey and Dr. Ernst B. Chain of Oxford University recently were awarded the 1945 Nobel Prize for physiology and medicine. The 1943 award was made to Drs. Edward A. Doisy, professor of biochemistry at the St. Louis University School of Medicine, and Henrik Dam of Copenhagen, who was in the United States at the time. The 1944 award was presented to Drs. Joseph Erlanger, professor of physiology at Washington University School of Medicine, St. Louis, and Herbert Spencer Gasser, director of the Rockefeller Institute, New York. According to the Stockholm announcement, the 1945 award is made in recognition of the pioneer work of these three investigators in the discovery of penicillin and its healing effects in treating infections. The recipients will share equally in the prize, which amounts to about $30,000. The history of the discovery of penicillin by Fleming, Florey and Chain and of its application to the treatment of infections has been previously reviewed editorially.[1] Fleming's discovery of penicillin as an antibiotic agent was published in 1929; Florey and Chain demonstrated a method of obtaining penicillin in relatively pure form and first employed this substance clinically during the years 1938 to 1940. Fleming, Florey and Chain are universally recognized as the pioneers in penicillin research, although other workers have contributed greatly to the preparation of penicillin and its clinical use today.

MEDICAL SCHOOL DECELERATION

Elsewhere in this issue is a statement by the Council on Medical Education and Hospitals urging the Army to permit medical school deceleration even though Army Specialized Training students should remain on active duty in the program. Such deceleration would not affect the supply of replacements for medical officers for two years, since the present juniors, completing that year in April 1946 in most schools, could not be available until they have had an additional nine months of accelerated education and an internship of nine months or a year. Insistence on acceleration by the Army would prevent the schools from inaugurating intensive externship "courses" for physician veterans, who will seek such work in increasing numbers. A veterans' externship program can be conducted only in schools whose clinical teaching facilities are freed by the absence of junior and senior externs. The Army has a serious obligation to its own veterans in this matter. Why should not the Army make adjustments similar to those made by the Navy, which is quite willing for medical schools to decelerate at least temporarily, if they wish? Even though certain schools may decide to adopt a modified accelerated program after the current educational emergency presented by the veterans has passed, the need for meeting current obligations is obvious.

1. The History of Penicillin, editorial, J. A. M. A. **126**: 170 (Sept. 16) 1944.

VITAMIN K AND INFANT MORTALITY

The value of vitamin K in preventing hemorrhage in the newborn depends on whether a prolongation of coagulation time is an essential feature of the hemorrhagic manifestations. Vitamin K has a definite effect in reducing the coagulation time when prolongation is due to prothrombin deficiency. The prothrombin time is usually prolonged in newborn infants for the greater part of the first week of life. This is the basis for the routine prophylactic use of vitamin K ante partum or neonatally. Confusion exists in the differentiation between true hemorrhagic disease and hemorrhagic manifestations in the newborn, with subsequent variations in the reported incidence and mortality of these conditions. Some investigators have made amazing claims for reduction in the incidence and mortality rate of hemorrhagic disease by routine vitamin K prophylaxis. Sanford and his co-workers[1] in their study of vitamin K were unable to show that hemorrhagic manifestations in the newborn were associated with a prothrombin deficiency; nor were they decreased by administration of vitamin K. Sanford maintained that conditions other than vitamin K deficiency were responsible for the majority of hemorrhagic manifestations in the newborn. Simple evidence of bleeding was not a justification for a diagnosis of true hemorrhagic disease, in which there is a prolongation of prothrombin time and vitamin K is of value. True hemorrhagic disease occurred infrequently, once in 2,500 births in Sanford's series. In order to evaluate claims that vitamin K administered routinely would reduce neonatal mortality rates by decreasing the number of infants who die of hemorrhage, a study was carried out at the Chicago Lying-In Hospital.[2] Vitamin K was given to all patients delivered for a two year period (1941-1942). Then for the subsequent two year period (1943-1944) medication was not used at all. Examination of the death rates for the two periods showed almost identical rates for the first ten days of life. Of 369 infants who were born dead or who died in the first ten days postnatally, 334 were subjected to postmortem examination. "Each group has approximately the same number of infants with hemorrhagic manifestations, and associated with practically all of these there were abnormalities of labor or delivery which appeared to be definite causative factors." In only 2 infants who were examined post mortem did the possibility of true hemorrhagic disease exist, but in neither was the diagnosis conclusive. Both these infants failed to respond to vitamin K. If these were cases of true hemorrhagic disease, vitamin K failed to cure them; if they were not, then true hemorrhagic disease did not occur in over 13,000 deliveries. Potter concludes that the routine administration of vitamin K does not reduce infant or fetal mortality and that hemorrhagic disease as an entity probably has some other inciting factor than a prolongation of the prothrombin time.

1. Sanford, Heyworth N.; Shmigelsky, Irene, and Chapin, Josephine M.: Is Administration of Vitamin K to the Newborn of Clinical Value? J. A. M. A. **118**: 697 (Feb. 28) 1942.

2. Potter, Edith L.: The Effect on Infant Mortality of Vitamin K Administered During Labor, Am. J. Obst. & Gynec. **50**: 235 (Sept.) 1945.

MEDICINE AND THE WAR

ARMY

REGULAR ARMY OFFICERS TO RECEIVE PROFESSIONAL TRAINING

One hundred regular army officers have been assigned to the army general hospitals and medical installations as part of the Army's new plan to give professional training to officers of the Regular Army Medical Department. Under this policy the Regular Army Medical Corps officer will be assured a professional career and will receive graduate training, aid in obtaining board certification for medical specialists from recognized civilian specialty boards and security not usually available in civilian practice. The new program also offers opportunities for Regular Army officers now doing administrative work to understudy doctors who have been active in professional practice during the war. Twenty-one of the one hundred officers have been assigned to specialize in internal medicine and thirty-three in general surgery. The others are assigned in radiology, eye, ear, nose and throat, anesthesiology, neuropsychiatry, urology, pathology, orthopedics, obstetrics and gynecology and public health.

ALLERGY TESTS AT FORT LEWIS

Suitable allergy tests to determine the extent of skin irritation caused by woolen clothing impregnated with insect repellent are to be conducted at Fort Lewis, Washington, under the direction of Capt. Harry Levitt of the Dermatology and Allergy Department at Fort Lee, Virginia.

One hundred and fifty soldiers who have volunteered for the test have been divided into three groups. Fifty will be equipped with untreated woolen uniforms and will act as a control group. Another fifty will wear woolen clothing impregnated with a miticide preparation employing Tween-80 as an emulsifier. The uniforms of the third group will be impregnated with a miticide solution that uses tetrachlorethane as a solvent.

The results of the test will be transmitted to the Preventive Medicine Service of the Surgeon General's Office, Sanitation and Hygiene Division.

STUDY ORGANIZATION AND RESEARCH PROGRAM AT SCHOOL OF AVIATION MEDICINE

The AAF School of Aviation Medicine, Randolph Field, Texas, is to serve as a model for a similar institution to be established in Sweden, according to medical officers from the Swedish Royal Air Forces visiting the United States. The visiting party consisted of Lieut. Col. L. Westering, Deputy Air Surgeon to the Swedish Royal Air Forces, Capt. Kjell Rasmusson, member of the Swedish Air Forces, and Prof. E. Christensen, civilian consultant. After studying the organization and research program of the School of Aviation Medicine they will return to Sweden on completion of a nationwide tour to make recommendations for establishing an aero-medical school in their own country.

TEMPORARY PROMOTIONS

The President recently recommended to the Senate the temporary promotions of the following medical corps officers to the grade of brigadier general:

Col. Clyde McKay Beck, commanding officer, Ashford General Hospital, White Sulphur Springs, W. Va.

Col. Sidney L. Chappell, commanding officer, England General Hospital, Atlantic City, N. J.

Col. Robert M. Hardaway, commanding officer, Bushnell General Hospital, Brigham City, Utah.

Col. William C. Menninger, director of the Neuropsychiatry Division in the Surgeon General's Office, Washington, D. C.

Col. Luther R. Moore, surgeon of the Ninth Service Command, Fort Douglas, Utah.

Col. Edward A. Noyes, surgeon of the Fifth Service Command, Fort Hayes, Ohio.

AWARDED MERITORIOUS SERVICE UNIT PLAQUE

The Medical Detachment of the 1st Infantry Regiment was recently awarded the meritorious service unit plaque for "meritorious service rendered during the Luzon, Philippine Islands, campaign. From Jan. 9, 1945 to April 30, 1945 the Medical Detachment of the 1st Infantry Regiment displayed outstanding devotion to duty in the performance of exceptionally difficult and hazardous assignments. Through the untiring efforts and tenacious determination of the officers and men of the detachment, personnel of the regimental combat team received the highest degree of medical attention, rendered under the most difficult weather and terrain conditions and subject to the hazards of combat throughout the Luzon, Philippine Islands, campaign. Personnel of the medical detachment landed with all assault waves of the Luzon operation and were soon followed by the headquarters personnel, who landed with a nonassault wave. The bombed and shelled civilian population was immediately administered much needed medical aid and, as the combat team progressed toward successive assigned objectives, the ever increasing medical problem of civilian personnel was handled with utmost efficiency and forethought. Throughout the combat assignments medical aid men, surgical technicians, litter bearers and officer personnel advanced with foremost assault elements, constantly displaying aggressive efforts in rescuing wounded personnel from enemy lanes of fire, sheltering them through severe mortar and artillery barrages, administering blood plasma in positions under intense fire, removing the dead from severely contested areas and meeting every demand of our command in rendering prompt and efficient medical aid. Although subject to artillery, mortar and sniper fire, and during constant relocation, rear and forward medical installations were established and operated with such a degree of efficiency and rapidity that administration of medical aid and evacuation to rear echelons were accomplished with a minimum loss of life. . . . The unselfish devotion to duty, advance preparation for expenditure of energy and outstanding initiative of the officers and enlisted personnel of the detachment reflect the highest credit on the military service. The outstanding performance of duty, in addition to exemplary standards of discipline, morale, military courtesy and appearance, merits the fullest credit and is highly commendable."

SWEDISH SURGEON GENERAL VISITS MEDICAL DEPARTMENT

By special invitation of the War Department, Surg. Gen. David Lindsjo and Surg. Comdr. Karl Erick Groth of the Royal Swedish Defense Forces recently visited numerous army installations for the purpose of studying the organization and training methods of the Army Medical Department. Inspection of these installations began with an introductory visit to the Training Division, Office of the Surgeon General, and included Army General Hospitals Walter Reed, Fitzsimons, Kennedy, Halloran, Mason, Thomas M. England and Valley Forge. Their itinerary also included tours of several medical schools, supply depots, research and equipment laboratories and medical induction and separation centers.

AWARDS MADE TO ARMY MEDICAL DEPARTMENT

Of the 1,400,409 decorations given in World War II in recognition of meritorious service and gallantry, 6 per cent were received by Medical Department personnel. These figures are exclusive of the Air Medal and the Purple Heart.

ARMY AWARDS AND COMMENDATIONS

Major John K. Meneely Jr.

The Bronze Star and two oak leaf clusters to the Bronze Star were recently presented to Major John K. Meneely, formerly of New Haven, Conn. The citation accompanying the Bronze Star described his "meritorious service in combat from Feb. 19, 1945 to March 10, 1945 in the Apennine Mountains in Italy. The entry of a regiment of mountain infantry into combat for the first time entailed many problems and difficult situations. During this action in rugged country under the most dangerous conditions Major Meneely, the regimental surgeon, operating under terrific handicaps, planned and directed the efficient and speedy treatment and evacuation of the wounded. Through his tireless efforts and superior personal supervision the regiment's mission was accomplished with the maximum care of personnel, saving many lives and relieving much suffering. This commendable performance earned for him the respect and admiration of all his associates and is deserving of much praise."

The citation accompanying the first oak leaf cluster to the Bronze Star called attention to Major Meneely's "heroic achievement in action of April 29, 1945 near Torbole, Italy. During the fierce fighting on the shores of a large lake a battalion aid station became separated from its collecting point. Major Meneely, aware of the urgent need for reestablishing an area where the wounded might receive maximum care and speedy evacuation, courageously set out in an assault boat during the height of the enemy action to establish an advance station. On arrival at the chosen site he found the terrain unsuitable, so continued onward to a town recently cleared of the enemy. Here he established his collecting point and again exposed himself to deadening artillery fire to reach the regimental aid station, where he informed litter bearers of the newly established collecting area and arranged for proper evacuation from this site. After returning to this forward location he worked tirelessly to insure maximum efficiency in processing the many casualties. His noteworthy accomplishments were essential in the saving of much suffering and life, justly gaining the sincere gratitude and respect of all. The high courage and keen sense of duty displayed by Major Meneely are truly indicative of the highest qualities of the Army Medical Department."

The second oak leaf cluster was awarded "for meritorious service in combat during the period April 14, 1945 to May 2, 1945 in the Apennine Mountains and Po Valley, Italy. As regimental surgeon and commander of the medical detachment during the final offensive in Italy, Major Meneely was faced with the difficult problem of treating and evacuating hundreds of casualties from a rapidly advancing front, which moved from the Apennine Mountains across the Po Valley and into the foothills of the Alps within the space of twenty days. The difficulties of keeping his aid stations moving with the front and operating efficiently to care for the heavy casualties required the finest initiative and skill. Almost every available means of transportation was used to carry the wounded men from the battlefield to the hospital in the rear, including litters, jeeps, ambulances, captured army vehicles and, at one time during the attack along the shores of Lake Garda, amphibious trucks and speedboats. His remarkable organization and execution of this difficult task resulted in the saving of many lives. He constantly worked with the forward aid stations, often under heavy fire, and accomplished his duties at all times, no matter what the difficulties or dangers, with the utmost skill and success. His outstanding achievements have earned Major Meneely the highest commendation and praise." Dr. Meneely graduated from Yale University School of Medicine, New Haven, in 1941 and entered the service Jan. 29, 1942.

Captain Frederick Firestone

The Silver Star and oak leaf cluster to the Silver Star were recently awarded to Capt. Frederick Firestone, formerly of Jamaica, N. Y. As related in the citation accompanying the Silver Star award, "on March 21, 1945, in the vicinity of ——, Germany, two men too severely wounded to be moved were left on the field within 30 yards of an enemy machine gun when their company was forced to withdraw. Captain Firestone, 3d Battalion surgeon, realizing their precarious position, went to their aid. Although he identified himself to the enemy as a medical officer, he was subjected to intense machine gun fire. With utter disregard for his life Captain Firestone, followed by a litter team, crawled 300 yards to the wounded men and, oblivious of the enemy fire, administered plasma, rendered medical aid and supervised their evacuation. His action reflected the highest traditions of the military service."

The following citation accompanied the Oak Leaf Cluster to the Silver Star: "For gallantry in action. On Nov. 20, 1944, on the outskirts of Barr, France, informed that a seriously wounded man could not be evacuated, Captain Firestone, battalion surgeon, secured a plasma set and ran 100 yards through hostile fire to the casualty and administered aid. Later in the day, after several unsuccessful attempts to reach a seriously wounded tank commander lying in a fire swept street, Captain Firestone ran from house to house until directly opposite the casualty. He then crawled into the street and dragged the man into a building, where he administered aid. His actions reflected the highest traditions of the military service." Dr. Firestone graduated from the Faculty of Medicine of the University of Vienna in 1937 and entered the service May 20, 1944.

Major Sigsbee R. Seljeskog

Major Sigsbee R. Seljeskog, formerly of Minneapolis, was recently awarded the Bronze Star "for meritorious service in connection with military operations against the enemy as commanding officer, Hospitalization Unit 1, 13th Field Hospital, from June 8, 1944 to Jan. 4, 1945 in France, Belgium and Germany. Displaying sound judgment and marked ability, Major Seljeskog on landing in France on June 8, 1944 quickly organized and established the first field hospitalization unit to admit casualties sustained in the invasion of the European continent. His initiative and untiring efforts directly contributed to the fulfilment of the extreme medical needs of the amphibious operation and did much to lessen the burden of the overcrowded clearing stations in the beach area. During subsequent operations Major Seljeskog's diligence and industrious attention to duty were instrumental in saving the lives of many troops and in adding to the physical comforts of hundreds of others." Dr. Seljeskog graduated from the University of Minnesota Medical School, Minneapolis, in 1936 and entered the service June 1, 1942.

Captain Albert Kaplan

Capt. Albert Kaplan, formerly of St. Louis, was recently awarded the Bronze Star. "Captain Albert Kaplan," the citation read, "served against the Japanese forces on Luzon, Philippine Islands, from Jan. 11 to June 30, 1945. During this time Captain Kaplan served as company officer and platoon leader in the clearing company of an infantry division. In this capacity Captain Kaplan, through untiring effort and application of superior professional skill, effectively treated hundreds of wounded and sick patients and returned them to duty in a minimum of time. By virtue of a comprehensive knowledge of his assignment, Captain Kaplan personally supervised moving of equipment and establishing model stations in a most rapid and efficient manner. The constant devotion to duty displayed by Captain Kaplan reflects credit on himself and the medical corps and was in keeping with the highest traditions of the military service." Dr. Kaplan graduated from Washington University School of Medicine, St. Louis, in 1936 and entered the service Oct. 9, 1942.

Major John F. Cary

Major John F. Cary, formerly of Sheboygan, Wis., was recently awarded the Bronze Star and a citation for meritorious service in connection with military operations against the enemy from Dec. 24, 1944 to March 25, 1945. The citation states that Major Cary "performed his duties as regimental surgeon in a highly commendable manner. His professional brilliancy, diligence, attention and devotion to duty are in keeping with the finest traditions of the Army Medical Corps." Dr. Cary graduated from Loyola University School of Medicine, Chicago, in 1938 and entered the service March 5, 1941.

Brigadier General Joseph I. Martin

The Distinguished Service Medal was recently awarded to Brig. Gen. Joseph I. Martin, formerly of Washington, D. C., who, according to the citation accompanying the award, "served with distinction as surgeon, Fifth Army, in Italy from December 1944 to May 1945. During the winter of 1944-1945, while the Fifth Army was deployed across the Apennines from a point below Bologna to the Ligurian Sea, he skilfully deployed medical support to meet the rigors of a winter campaign, despite extremely difficult climatic and terrain conditions. As a result of his foresight and wise counsel, disease rates which might otherwise have weakened the Fifth Army before its final attack remained at record low levels. When the victorious April offensives began he devoted himself completely and selflessly to the task of furnishing constant medical service for the sick and wounded. With comparatively few hospitals at his disposal to support an attack of such magnitude, he spent long hours in the field, visiting units under his direction, counseling, supervising and insuring that each casualty received the finest possible medical treatment. He solved the difficult problem of hospitalizing and evacuating thousands of prisoners of war without once jeopardizing the efficient treatment of American and Allied troops. His relations with surgeons of Allied forces under Fifth Army operational control were conducted in the highest spirit of friendly cooperation. His magnificent record of achievement contributed materially to the successful operations of the Fifth Army." General Martin graduated from the Chicago Medical School in 1918 and entered the service July 31, 1918.

Major Walter R. Stager

The Legion of Merit was recently awarded to Major Walter R. Stager, formerly of Dover, Ohio, "for exceptionally meritorious conduct in the performance of outstanding services from March 22, 1943 to June 30, 1945." The official citation stated that "the difficulties and problems involved in maintaining every pilot at his peak of physical and flying efficiency were quickly recognized by Major Stager. His responsibility was great and he executed this responsibility in a superior manner. He proved himself a master of improvisation, and the words 'can't,' 'impossible' and 'unavailable' were not in his vocabulary. In caring for the individuals subject to the bleak weather conditions and monotonous daily life in the Aleutian Islands this officer made his personality and untiring efforts a needed stimulant to the health and happiness of all members of this command. The self sacrifice made, the intense loyalty displayed and the unrelenting devotion to duty shown by Major Stager during his tour of duty have contributed greatly to the activities of the Army Air Forces in this theater." Dr. Stager graduated from Creighton University School of Medicine, Omaha, in 1933 and entered the service Sept. 11, 1942.

Lieutenant Colonel C. B. LaDine

Lieut. Col. C. B. LaDine, formerly of Indianapolis, was recently awarded the Bronze Star for meritorious service in connection with military operations of the 95th General Hospital from May 22, 1944 to Feb. 10, 1945. Colonel LaDine was executive officer and was in charge of the complete organization of the hospital, which was transported to France shortly after D day and served close behind the front lines in the Third Army. Colonel LaDine is now the executive officer of the Thayer General Hospital, Nashville, Tenn. He graduated from Indiana University School of Medicine, Indianapolis, in 1939 and entered the service July 22, 1942.

Lieutenant Colonel Berthel Henning

The Bronze Star was recently awarded to Lieut. Col. Berthel Henning, formerly of San Francisco, "for meritorious service in connection with military operations as commanding officer, 7th Field Hospital, from July 1, 1944 to May 7, 1945. Lieutenant Colonel Henning has maintained the morale and efficiency of the personnel of his unit by his intense zeal, personal example and superior qualities of leadership. Even under the most adverse circumstances with which his personnel had always to contend he kept their operating efficiency at a peak. Although his unit was equipped to handle 400 patients at one time, he arranged personnel and responsibilities so efficiently that the hospital consistently handled 600 beds, and, at one site, 1,200 beds. Lieutenant Colonel Henning, by superior ability and devotion to duty, was largely responsible for the outstanding accomplishments of the 7th Field Hospital." Dr. Henning graduated from the University of California Medical School, San Francisco, in 1925 and entered the service Feb. 2, 1941.

Captain A. David McKinley

The Soldier's Medal was recently awarded to Capt. A. David McKinley, formerly of Indianapolis, for his heroic action in trying to rescue a wounded pilot from a burning plane on Saipan, January 19. Captain McKinley was the flight surgeon on flight-line duty when the plane, in attempting to take off on a test flight, crashed and burned. The flames soon spread to a cane field and on a large ammunition dump, setting that afire. Quite a large number of officers and men were killed or wounded. Dr. McKinley graduated from Indiana University School of Medicine, Indianapolis, in 1939 and entered the service July 1, 1942.

Major Kenneth B. Babcock

Major Kenneth B. Babcock, formerly of Detroit, was recently awarded the Bronze Star "for meritorious service in support of combat operations in North Africa, Corsica and Italy from June 1, 1943 to May 2, 1945." Major Babcock established and efficiently operated a 100 bed hospital in the Anglo-Egyptian Sudan and later skilfully directed 100 bed hospitals in Libya, Corsica and Italy in climate and terrain varying from the blazing deserts of Africa to the cold, mountainous regions of Italy. Dr. Babcock graduated from the University of Michigan Medical School, Ann Arbor, in 1926 and entered the service Aug. 14, 1942.

Captain Clifton Woolley

The Silver Star was recently awarded to Capt. Clifton Woolley, formerly of Columbiana, Ala. "With utter disregard for his own safety," stated the citation accompanying the award, "Captain Woolley covered 3,000 yards through enemy-held territory to operate on a wounded soldier. . . . The great courage under fire, aggressiveness and devotion to duty displayed by Captain Woolley saved a soldier's life and reflects great credit on himself and the Medical Department of the United States Army." Dr. Woolley graduated from the University of Tennessee College of Medicine, Memphis, in 1939 and entered the service Aug. 20, 1942.

Major John C. Adams

Major John C. Adams, formerly of Portland, Ore., was recently awarded the Bronze Star, having "distinguished himself by meritorious service in connection with military operations from Jan. 21 to May 8, 1945. Major Adams performed his duties in an outstanding manner. Through his surgical skill, sound judgment and devotion to duty he contributed materially to the high standard of medical service rendered by his unit." Dr. Adams graduated from the University of Oregon Medical School, Portland, in 1926 and entered the service March 31, 1943.

Lieutenant Colonel Maxwell R. Bernstein

The Bronze Star was recently awarded to Lieut. Col. Maxwell R. Bernstein, formerly of Pittsburg, Calif. Dr. Bernstein has been in China since September 1943 working with American liaison units in the field. He has tended both Chinese and American soldiers for the past two years and is now awaiting orders to be returned to the United States. Dr. Bernstein graduated from the University of Illinois College of Medicine, Chicago, in 1935 and entered the service April 20, 1941.

Captain John P. Lee

Capt. John P. Lee, formerly of St. Louis, was recently awarded the Bronze Star and a second Presidential Unit citation. He received the Bronze Star "for meritorious achievement in connection with military operations against the enemy on Jolo Islands from April 9 to May 7, 1945." Dr. Lee graduated from Washington University School of Medicine, St. Louis, in 1941 and entered the service Sept. 1, 1942.

MISCELLANEOUS

ITALIAN MEDICAL NUTRITION MISSION

The Italian Medical Nutrition Mission, sponsored jointly by the Unitarian Service Committee and the Congregational Christian Service Committee, is now set up and working in Italy under the United Nations Relief and Rehabilitation Administration.

The purposes of the mission are fourfold: (1) to find out the actual nutritional conditions and needs among the starving people of Italy, (2) to help UNRRA evaluate and improve its feeding program in that country, (3) to make a detailed scientific study of the results of a carefully supervised experimental feeding program for individuals who have suffered prolonged malnutrition, a study that may establish scientific procedures for all further feeding programs, and (4) to help local medical groups in their rehabilitation programs and to encourage their continued scientific study.

The American staff consists of:

Dr. Charles R. Joy, executive director, Unitarian Service Committee.
Robert P. Kellerman, Pacific School of Religion, assistant executive officer.
Dr. Elmer Sevringhaus, University of Wisconsin, co-director and internist.
Dr. Maurice B. Visscher, University of Minnesota, co-director and physiologic nutritionist.
Dr. Ashton C. Cuckler, University of Minnesota, parasitologist.
Ruth M. Flumerfelt, Wisconsin General Hospital, dietitian.
Dr. Frank Gollan, U. S. P. H. S., assistant pediatrician.
Dorothy Hagedorn, R.N., technologist.
Dr. Ancel Keys, University of Minnesota, biochemist and nutritionist.
Marjorie Knowlton, University of Minnesota Medical School, technologist.
Dr. Emma Kynos, general medical practitioner, assistant internist.
Dr. Maury Massler, University of Illinois College of Dentistry, dental research, assistant director.
Dr. James Perkins, State of New York Department of Health, epidemiologist.
Dr. Isaac Schour, University of Illinois College of Dentistry, dental research director.
Dr. Lester Sontag, director of Samuel S. Fels Research Institute, pediatrician.
Dr. Ernest L. Stebbins, commissioner of New York City Department of Public Health, epidemiologist.

Northern Italy was found to be in noticeably better condition than southern Italy. In Milan the 1,700 bed hospital was adequately supplied with enough milk, eggs and vegetables, the only dietary shortage being cereals.

A team of Italian doctors and students was trained, and a tuberculosis survey was started on May 21 in Fondi, a community of 17,000. Four thousand persons were examined in twelve days at the clinic. Malaria was almost universal, judging from the history and examination of this 25 per cent sample of the population. The major nutritional problems were rickets, calories and poverty. The findings indicated an overall incidence of tuberculosis below 2 per cent among the 4,000 persons examined. No malaria was found in this community. This team conducted surveys in Sardinia during August and in the southern part of Italy during September.

In a superficial examination of the teeth of returning Italians from Germany, it was found that 62 per cent of these people had less than two carious or missing teeth, although few of them had ever used a tooth brush or had dental care of any sort.

The intensive study program at the clinics of the University of Naples has become increasingly well knit. The entire American staff has now arrived, and daily staff lunches, American and Italian, are a feature that adds greatly to the smooth running of the program and cooperation of the personnel. Miss Flumerfelt, the dietitian, produces an appetizing menu that demonstrates what can be done with UNRRA foods. Bread and macaroni are produced from the specially improved flour that was part of the design of the project.

In the clinics it has been necessary to clarify the differences in diagnosis of nutritional diseases that are due to differences in terminology and to the relative isolation of Italian doctors from research for past years. Finally there came an opportunity to treat a baby who was very nearly dead from prolonged malnutrition plus final dehydration resulting in intoxication. The Italians consented to Dr. Gollan's use of plasma, which had been brought through the courtesy of Sharp and Dohme, and the results amazed the Italians, thereby opening new paths for study, teaching and prevention of previously unsolved difficulties.

Under the direction and planning of Dr. Sontag the team providing vitally important x-ray films of all children was developed, checking on rickets and on the maturity of the children as shown by bone growth. There are indications of a hitherto unrecognized problem child in Italy in whom stunted growth and development cause a new type of bone disease. A method of approach toward diagnosis and treatment of this condition is being worked out, and a chart system has been organized whereby difficulties will be eliminated in comparing data on these children with those studied in American hospitals. A study of the effects of undernutrition on newborn babies is also under way, suggested by the professor of obstetrics at the university and carried out by joint American and Italian personnel.

One of the great needs of these Italian doctors is for books and journal contacts with the United States, which they are eager to reestablish. An effort is being made to supply them with a nucleus of most needed textbooks, and we are hoping to have journal exchanges set up. One evidence of their being out of touch was an extended debate in staff meeting in which they dilated greatly on the vital merits of mother's milk. It finally became apparent that they were defending their practice of overdiluting cow's milk, since they do not understand the modern methods of safe and adequate babies' formulas. To achieve safety they are sometimes nearly starving the babies. The staff is looking for opportunities to demonstrate to the Italian doctors and through them to the Italian mothers the appropriate methods for modifying cow's milk in such a way that babies will be able to grow normally.

VETERANS

NEW VETERANS ADMINISTRATION HOSPITALS

As part of the program announced on October 18 by General Omar N. Bradley, Administrator of Veterans' Affairs, for the construction of nineteen new Veterans Administration hospitals with a total of 11,100 beds, thirteen of these hospitals with 9,550 beds are located near medical schools. They are:

Location	Number of Beds	Near
New Haven, Conn.	500	Yale University School of Medicine
Albany, N. Y....	1,000	Albany Medical College
Buffalo	1,000	University of Buffalo School of Medicine
Newark, N. J....	1,000	Columbia University College of Physicians and Surgeons Long Island College of Medicine New York Medical College, Flower and Fifth Avenue Hospitals New York University College of Medicine Cornell University Medical College
Baltimore	300	Johns Hopkins University School of Medicine
Washington, D. C.	750	George Washington University School of Medicine Georgetown University School of Medicine
Louisville, Ky....	750	University of Louisville School of Medicine
Iowa City.....	500	State University of Iowa College of Medicine
Omaha	500	University of Nebraska College of Medicine Creighton University School of Medicine
New Orleans....	500	Tulane University of Louisiana School of Medicine Louisiana State University School of Medicine
Oklahoma City...	1,000	University of Oklahoma School of Medicine
Cincinnati	750	University of Cincinnati College of Medicine
Gainesville, Fla..	1,000	University of Florida Medical School

The October 18 list provided also for additions to fifteen existing hospitals and four domiciliary facilities with a total of 4,176 new beds.

Funds for the new hospitals and additions are being requested for the current fiscal year (1946). They are part of the overall 29,100 bed program approved by President Truman on August 4. The remainder of the program, which will be announced later, will be requested for the 1947 fiscal year.

PHYSICIANS SEPARATED FROM SERVICE

ARMY MEDICAL CORPS OFFICERS RECOMMENDED FOR/OR RELIEVED FROM ACTIVE DUTY

Alabama

Bartlett, Haywood S., Capt., 207 Thorn Pl., Montgomery.
Baumhauer, Charles A., Major, Whistler.
Beatty, Thomas D., Capt., Cullman.
Britton, William R., Capt., 120 Bankhead Ave., Montgomery.
England, Francis T., Capt., 50 S. Franklin St., Mobile.
Kahn, Sigmond A., Major, 3005 Canterbury Lane, Birmingham.
Roberts, Edward H., Capt., Choccolocco.
Shamblin, R. D., Capt., 1013 Myrtlewood Dr., Tuscaloosa.
Warren, Claude M. Jr., Capt., Jackson.

Arizona

Fife, Karl L., Capt., Duncan.
Gwinn, Frank W., Major, Box 1511, 300 Gila St., Yuma.
Hurianek, Zdenka A., Capt., 15 E. Monroe St., Phoenix.
Hussong, Ruland W., Capt., 15 E. Monroe, Phoenix.
McNally, Joseph P., Capt., 208 Grove Ave., Prescott.
Oliver, Claude H., Lt. Col., 800 11th St., Douglas.

Arkansas

Armstrong, Howard M., Capt., Baptist State Hosp., Little Rock.
Buckelew, Hollis H., Major, Maumelle Ord. Wks., Little Rock.
Burton, Francis M,. Major, 711 Prospect Ave., Hot Springs.
Carrington, Hamilton K., Capt., Magnolia.
Connolly, William B., Capt., Solomon Bldg., Helena.
Donaldson, Joy K., Major, 2107 N. Palm St., Little Rock.
Fulmer, Doyle W., Capt., 819 22 Donaghey Bldg., Little Rock.
Gartrell, Luther S. Jr., 1st Lt., Ward.
Grace, Jesse K., Lt. Col., Belleville.
Harwell, Carl M., Jr., Lt. Col., Osceola.
Henry, Lewis M., Major, 602 Garrison Ave., Fort Smith.
Hirst, Ottis G., Lt. Col., Prescott.
Hyatt, Cyril L., Capt., 701 Main St., Little Rock.
Imes, Elvin D., Capt., 317 Pecan St., Texarkana.
Jackson, Jabez F., Major, Walnut Ridge.
Kinley, James D., Major, Beebe.
Kirby, Henry V., Capt., 1001 West Nicholson, Harrison.
Madding, G. F., Major, 607 Merchants Bank Bldg., Ft. Smith.
Russell, Allen R., Lt. Col., 521 National Bldg., Pine Bluff.
Sanderlin, Joseph H., Lt. Col., Little Rock.
Sisco, Friedman, Major, Springdale.
Smith, John W., Major, 2115 N. Palm St., Little Rock.
Wickard, Charles P., Capt., 2809 Gaines St., Little Rock.

California

Aldrich, Albert T., Capt., Childrens Hosp., Los Angeles.
Argo, William L., Major, 944 61st St., Oakland.
Armanini, George B., Major, 498 Arques St., Sunnyvale.
Ball, Franklin I., Lt. Col., 6253 Hollywood Blvd., Los Angeles.
Berne, Clarence J., Lt. Col., 2023 Redcliff St., Los Angeles.
Bine, Rene Jr., Capt., 15 26th Ave., San Francisco.
Blasdel, Edward K., Capt., Tulare Co. Hosp., Tulare.
Bruce, Robert A., Major, 1423 Virgil Pl., Los Angeles.
Casey, Earle A., Capt., 917 Bridge Rd., San Leandro.
Churchill, Ambrose S., Capt., 1247 Brunswick, S. Pasadena.
Cohn, Roy B., Lt. Col., 106 N. Lucerne Blvd., Los Angeles.
Colby, Elliott G., Col., 2457 Willow St., San Diego.
Cole, Edwin R., Major, 3164 16th St., Sacramento.
Corbin, Damon E., Capt., 4176 Arden Way, San Diego.
Coulter, James D., Major, Western Pacific Hosp., Portola.
Crane, Norman F., Capt., 627 S. Normandie Ave., Los Angeles.
De Fries, William A., Capt., P. O. Box 14, Alamo.
Demakopoulos, Nick, Capt., 320 W. Poplar St., Stockton.
Dryfoos, Herbert L., Major, 167 Beaumont Ave., San Francisco.
Eaker, Alan B., Lt. Col., Santa Fe & Eight St., Carmel.
Escamilla, Roberto F., Major, 3325 Jackson St., San Francisco.
Evans, W. L., Major, 3044, The Mall, Wyvernwd, Los Angeles.
Everingham, Sumner, Col., 400 29th St., Oakland.
Farthing, Thomas E., Major, 23 2d. Ave., San Mateo.
Firpo, John J., Capt., 500 Hanigan St., San Francisco.
Galgiani, John V., Capt., 17 17th Ave., San Francisco.
Gordon, Gerald, Capt., 5410 Wilshire Blvd., Los Angeles.
Greenfield, Michael B., Capt., U.S. Vet's. Facility, Palo Alto.
Hamilton, R. S., Lt. Col., 5351 Eagledale Ave., Los Angeles.
Helsley, Gordon F., Major, 800 Monterey Blvd., San Francisco.
Hersh, Julius, Capt., 117 N. Arden Blvd., Los Angeles.
Ice, William H., Major, 1200 N. State St., Los Angeles.
Jackemy, Edward J., Major, 1615 Broadway, Oakland.
Jacobson, Julian C., Major, 457 Laurel St., Santa Cruz.
Johanson, V. E., Major., 137 Granville Way, San Francisco.
Johnson, Cyril H., Capt., 424 East Tulare St., Tulare.

California—Continued

Johnson, Phillips, Lt. Col., 290 Sea Cliff Ave., San Francisco.
Kelso, Raymond W., Major, 117 E. 8th St., Long Beach.
Kennedy, William J., Major, 5487 Masonic Ave., Oakland.
Kirby, Edwin G., Capt., 390 Douglass St., San Diego.
Klein, Rudolph, Capt., 2942 Hillcrest Dr., Los Angeles.
Lawrence, Norris B., Capt., 1206 Norman Rd., Colton.
Layden, Milton, Capt., 8646 S. Vermont Ave., Los Angeles.
Lee, Russel Van A., Col., 440 Gerona, Stanford U.
Lerner, Milton, Capt., % Olive View Sanatorium, Olive View.
McClintock, Edward A., Capt., Vet Adm Facility, Palo Alto.
McPharlin, James H., Capt., Salinas Nat. Bank, Salinas.
Meyer, Vincent S., Capt., Box 366, Los Altos.
Miller, Palmer D., Capt., 181 Hayes Ave., Dinuba.
Mote, Clayton, Lt. Col., 472 Dewey Blvd., San Francisco.
Nelson, James H., Capt., 2035 Zonal Ave., Los Angeles.
Nethery, William M., Major, 155 W. College St., Covina.
O'Connor, Michael J., Lt. Col., 145 Borel Ave., San Mateo.
O'Connor, Vincent D., Capt., 114 Sequoia St., Manteca.
Parker, David M., Major, 1595 28th Ave., San Francisco.
Pawley, Ralph E., Major, 422 King St., Indio.
Payne, Royal C., Major, 6235 Hollywood Blvd., Los Angeles.
Peterson, M. H. A., Maj., 417 E. Montecito Ave., Sierra Madra.
Potter, Henry G., Capt., 101 Main St., Winters.
Richardson, G. L., Major, 4438 Wortser Av., North Hollywood.
Rijhoff, Victor E., Capt., 823 Flood Bldg., San Francisco.
Rosoff, Leonard, Capt., Apt. 4, 120 S. Flores, Los Angeles.
Saeltzer, Dudley V. Jr., Major, 1124 47th St., Sacramento.
Salvater, Max L., 1st Lt., Sutter Club, Sacramento.
Schlichtmann, Carl E., Capt., 230 Woolsey St., San Francisco.
Soraco, Charles V., Capt., Placerville.
Stickler, J. H., Major, 4031 Hampstead, Flintridge, Pasadena.
Treadwell, Robert N., Capt., Stanislaus Co. Hosp., Modesto.
Tupper, W. R., Major, Olive View Sanatorium, Olive View.
Walker, Ralph S., Major, 1034 Harvard Rd., Piedmont.
Weddle, Robert P., Capt., 114 Taylor St., Roseville.
Welles, George E., Capt., 3908 First St., Riverside.
Wood, Clarence L., Capt., 1245 Oak Ave., St. Helena.

Colorado

Adams, Blair S., Major, 615 W. Mulberry St., Ft. Collins.
Albi, Roger V., Capt., 670 Columbine St., Denver.
Brown, Robert N., Capt., 615 Martindale Dr., Denver.
Cooper, Henry L., Major, 821 Madison St., Denver.
Cullyford, James S., Lt. Col., 1633 Endore St., Denver.
Dixon, Chalmer D., Lt. Col., Fitzsimmons Gen. Hosp., Denver.
Ivers, William M., Lt. Col., 805 West 4th St., Loveland.
Liggett, Robert S., Major 2083 Clermont, Denver.
Luparello, Thomas G., Major, Fitzsimons Gen. Hosp., Denver.
Mechler, Emmett A., Major 1960 Glencoe St., Denver.
Whitney, Roger S., Major, 23 E. Pikes Ave., Colorado Springs.
Wolfe, Joseph, Major, 850 S. Franklin St., Denver.

Connecticut

Andrus, Oliver B., Capt., 32 Daytona Ave., Devon.
Bergendahl, Harold A., Capt., RFD 8, Norwichtown.
Buccheri, Francis S., Capt., 35 Brighton St., New Britain.
Burack, Jason O., 1st Lt., 51 Quintanrd Ave., S. Norwalk.
Duffy, Leo T., Major, 214 Franklin Ave., Hartford.
Fox, James C. Jr., Lt. Col., 140 Davis St., Hamden.
Hebard, George W., Lt. Col., East Avenue, New Cannaan.
Lataif, George, Major, 96 Park Ave., Danbury.
Piccolo, Pasquale A., Major, 286 Humphrey St., New Haven.
Sherman, Saul H., Capt., 24 Second St., Stamford.
Rose, Samuel A., Capt., 25 Bedford St., Stamford.
Tovell, Ralph M., Col., 1897 Asylum Ave., West Hartford.

Delaware

Angevine, Daniel M., Major, RFD 2, Shipley Rd., Wilmington.
McDaniel, Joseph S. Jr., Major, Dover.
Reardon, William T., Capt., 207 W. 29th St., Wilmington.

District of Columbia

Bageant, William E., Capt., 6305 7th St. N.W., Washington.
Bauersfeld, Emil H., Capt., 3726 Conn. Ave., Washington.
Crockett, Edward D., Capt., 1827 1st St. N.W., Washington.
Dobkin, Joseph J., Major, 2656 15th St. N.W., Washington.
Evans, John A., Lt. Col., Washington.
Farrell, Malcolm J., Lt. Col., Off. of Surg. Gen. Washington.
Fierst, C. E., Major, 4210 Mathewson Dr. N.W., Washington.
Godfrey, James T. J., Capt., 1140 N. Capitol St., Washington.

PHYSICIANS SEPARATED FROM SERVICE

District of Columbia—Continued

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Kuhn, John J., Major, 1710 Lamont St. NW., Washington.
McKittrick, Jack, Capt., 707 E. Van Trees St., Washington.
Smith, John B., Capt., 812 Jefferson NW., Washington.
Tolstoi, George, Lt. Col., 1835 Eye St., N.W. Washington.
Wilner, Paul R., Major, 3726 Connecticut Ave., Washington.

Florida

Adams, Daniel M., Capt., Panama City.
Bernstein, William H., Capt., 4565 Bay Rd., Miami Beach.
Brown, Harold O., Lt. Col., 215 Madison St., Tampa.
Farrer, Frederick E., Major, 535 N.E. 68th St., Miami.
Fishbein, Isadore L., Capt., 1622 Euclid Ave., Miami Beach.
Harrell, Henry L., Lt. Col., 918 Oklawaha Ave., Ocala.
Hewlett, Frank W., Lt. Col., 2406 SW 23d Terrace, Miami.
Hodes, Robert, Major, 2500 3d Ave., N. St. Petersburg.
McDaniel, Thomas F., Major, 701 Park Ave., Sanford.
Manson, A. M., Capt., 4185 Lakeshore Blvd., Jacksonville.
Neals, Huerta C., 1st. Lt., 1545 W. 5th St., Jacksonville.
Park, Charles L., Major, 109 W. 18th St., Sanford.
Rowell, John P., Capt., 544 Halls Court S., St. Petersburg.
Saltz, Nathan J., Capt., 1651 Laura St., Jacksonville.
Stamps, Walker, Lt. Col., 4142 McGirts Blvd., Jacksonville.
Stead, Vergil G., Capt., Gen. Del. Naples.
Watt, Edward C., Major, 613 Greenleaf Bldg., Jacksonville.
Zimmerman, Paul A., Major, 2324 SW 23d St., Miami.

Georgia

Atkinson, Harold C., Lt. Col., 206 Corbin Ave., Macon.
Barfield, William E., Lt. Col., 402 Covington St., Jackson.
Battle, Lee H. Jr., Major, 402 E. 11th St., Rome.
Blumberg, Max M., Lt. Col., 1251 Fairview Rd., N.E. Atlanta.
Boland, Frank K. Jr., Major, 252 Peachtree Circle, Atlanta.
Boland, J. H., Major, 124 Peachtree Mem. Dr. N.W., Atlanta.
Bos, Howard, Major, ACL Hosp., Way-Cross.
Brown, Felix B., Major, 17 E. 52d St., Savannah.
Cross, John B., Major, 2605 Dellwood Dr. N.E., Atlanta.
Dellinger, Raider W., Major, 2 Sherwood Rd., Rome.
Durham, Bon M., Capt., University Hospital, Augusta.
Good, William H. Jr., Capt., Toccoa.
Hagan, James H., Capt., Rockmart.
Hester, Marion W., Capt., Grady Hosp., Atlanta.
Hill, Lyndon M. Jr., 1st Lt., 224 Boulevard NE., Atlanta.
Leonard, William P., Major, Talbotton.
McGinty, Howard C., Major, Statesboro.
Mosley, Hugh G., Lt. Col., 133 Carnegie Way, N.W. Atlanta.
Owens, Bennett G., Col., 1306 N. Patterson St., Valdosta.
Pierce, Lovick W., Lt. Col., 1003 Atlantic Ave., Waycross.
Rawlings, William, Capt., 310 Smith St., Sandersville.
Rhyne, Walter P., Lt. Col., 631 Fifth Ave., Albany.
Simmons, Shelton C., Jr., Major, 107 S. Church St., E. Point.
Smith, Frederick A., Jr., 1st. Lt., McRae.
Smith, Harold M., Major., Garrard Ave., R & 4, Savannah.
Strickler, C. W. Jr., Major, 21 Brookhaven Dr. NE., Atlanta.
Temples, Andrew K., Major, 407 7th St., Augusta.
Wood, Richard H., Lt. Col., 1657 Harvard Rd., Atlanta.

Illinois

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Aronow, Julius, Capt., 5731 N. Kimball Ave., Chicago.
Baker, Alonzo N., Major, 500 E. Allen Ave., Marion.
Baldwin, R. S., Lt. Col., 916 U. S. Post Office Bldg., Chicago.
Barak, H. G., Capt., % L. Wygodny, 5354 Winthrop, Chicago.
Baughman, Jack L., Capt., 1324 N. Park Dr., E. St. Louis.
Bedard, Robert E., Major, 650 S. Harrison Ave., Kankakee.
Beers, Morrison D., Capt., 2340 Lincolnwood Dr., Evanston.
Binder, Paul, Capt., 1444 S. Trumbull Ave., Chicago.
Blech, Joseph, Capt., 1026 Greenleaf Ave., Evanston.
Bleier, Robert S., Capt., 4830 N. St. Louis Ave., Chicago.
Bocke, Emmert, Capt., Winslow.
Bolla, Elder L., Major, 9224 Cottage Grove Ave., Chicago.
Bolman, Ralph M., Major, 1180 E. 63d St., Chicago.
Boros, Harold H., Major, 1337 W. Fargo Ave., Chicago.
Bowen, Wilbur L., Major, 4500 N. Sheridan Rd., Peoria.
Bowers, Daniel E., Capt., 1801 Moss Ave., Peoria.
Brenner, Frank T., Major, 2003 Jersey St., Quincy.
Brooks, Levis C., Major, 27½ W. Stephenson St., Freeport.
Burgess, John P., Capt., 2411 38th St., Rock Island.
Caliendo, Joseph E., Capt., 732 Bittersweet Pl., Chicago.
Cameron, Wayne F., Capt., 1220 Central St., Evanston.
Carter, Clifford L., Major, 417 E. Prospect Ave., Ottawa.
Ching, Tai T., Capt., 2227 Wentworth Ave., Chicago.

Illinois—Continued

Coyle, Joseph T., Capt., 7842 Creiger Ave., Chicago.
Crimson, Lester C., Major, Lying-In Hosp., Chicago.
Dashiell, Grayson F., Capt., 1209 Sherwin Ave., Chicago.
Decker, Virgil O., Capt., 313½ Ferry St., Metropolis.
Dent, Roy F. Jr., Capt., 244 E. Pearson St., Chicago.
Diamondstone, A. H., Capt., 1139 N. Spaulding Ave., Chicago.
Doherty, Chester C., Lt. Col., 1235 Astor St., Chicago.
Drenckhahn, C. H., Lt. Col., 602 W. University Ave., Urbana.
Ersfeld, John G., Capt., 5130 Montrose Ave., Chicago.
Espenscheid, John S., Capt., 1220 N. Logan Ave., Danville.
Ferrell, Robert V., Capt., 2020 Illinois Ave., Eldorado.
Fitz, Frederick W., Lt. Col., 423 Blackhawk St., Chicago.
Gurvey, Julius A., Capt., 6423 N. Bell Ave., Chicago.
Houghton, Earl J., Capt., St. Francis Hosp., Peoria.
Hughes, Edgar O., Capt., 507 E. Chalmer St., Champaign.
Knaus, William E., Major, 636 N. 22d St., East St. Louis.
Lassar, Gilbert N., Major., 1st. Nat'l. Bk. Bldg., Springfield.
Leach, John E., Capt., 800 Indiana Ave., Mendota.
Manning, John J., Major, 6442 Wayne Ave., Chicago.
Markoutsas, George C., Capt., 1608 W. Cermak Rd., Chicago.
Nigro, S. J., Capt., 3645 W. Chicago Ave., Chicago.
Platt, Alfred J., Capt., 506 Oakdale St., Chicago.
Rosack, Henry P., Capt., 1246 Noble St., Chicago.
Ryan, David C., 1st. Lt., 306 Atlantic, Peoria.
Young, Louis C., Major, 1119 W. Main St., Taylorville.

Indiana

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Anderson, Charles P., Major, 269 Rutledge, Gary.
Blazey, Arthur G., Major, 600 George St., Washington.
Butterfield, Robert M., 1st. Lt., 1002 W. Gilbert St., Muncie.
Clark, William R., Capt., 4115 Beaver Ave., Fort Wayne.
Close, Walter D., Major, 423 W. 43d St., Indianapolis.
Combs, Stuart R., Major, 2620 N. 10th St., Terre Haute.
Connoy, Leo F., Capt., 1615 Carollton Ave., Indianapolis.
Davis, Parvin M., Lt. Col., Paoli Pike, New Albany.
Derhammer, George L., Major, Box 12, Brookston.
Dorrance, Thomas O., Capt., 228 E. South St., Bluffton.
Engle, David E., Major, 1076 W. Michigan, Indianapolis.
Erdel, Milton W., Lt. Col., 306 People Life Bldg., Frankfort.
Faul, Henry J., Major, 602 S. E. Riverside Ave., Evansville.
Felson, Benjamin, Major, Indiana University, Indianapolis.
Ferrara, Joseph F. Jr., Capt., 744 Polk St., Gary.
Fickas, Dallas, 1st Lt., 927 E. Mulberry St., Evansville.
Firestein, Ben, Capt., 508 Odd Fellows Bldg., South Bend.
Firestone, Milton H., Capt., 3919 S. Harrison Blvd., Ft. Wayne.
Fox, Francis H., Capt., 417 Division St., Bicknell.
Fuson, Wenfred J., Capt., 108 N. Wood Blvd., Greencastle.
Gambill, William D., Major, 1911 Kessler Blvd., Indianapolis.
Grillo, Donald, Major, 1832 N. Adams St., South Bend.
Grisell, Ted L., Capt., 1242 W. N. Y., Indianapolis.
Harrison, Benjamin L., Major, 233 Bundy Ave., Newcastle.
Hall, Bernard R., Capt., City Hospital, Indianapolis.
Hallam, Franklin T., Col., 410 N. Meridian St., Indianapolis.
Hash, John S., Capt., 202 E. 3d St., Williamsport.
Havice, Jay F., Lt. Col., 3721 Indiana Ave., Ft. Wayne.
Hippensteel, R. R., Major, 5242 N. Illinois St., Indianapolis.
Johnson, Thomas W., Capt., 3239 N. Illinois St., Indianapolis.
Kabel, Robert N., Capt., City Hosp., Indianapolis.
Kahan, Harry Leo, Major, 738 Broadway, Gary.
Kauffman, Sidney A., Capt., 3337 College Ave., Indianapolis.
Kemp, John T., Capt., 631 Pine St., Michigan City.
Kendall, Forest M., Capt., 597 W. Adams St., Alexandria.
Kilgore, Byron Jr., Capt., 35 W. Marion St., Danville.
Leser, Ralph U., Major, 23 E. Ohio St., Indianapolis.
Lewis, James F., Major, 28 E. Union St., Liberty.
Lybrook, William B., Major, RFD 2, Galveston.
McCormick, C. O. J., 1st. Lt., 4041 Wash. Blvd., Indianapolis.
McIntyre, James M., 1st. Lt. 201 Blue Ride, Indianapolis.
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Martin, Floyd S., Capt., 127 E. Lincoln Ave., Goshen.
Miller, Robert J., 1st Lt., 830 S. 8th St., Evansville.
Modjeski, Raymond J., Capt., 233 Lawndale St., Hammond.
Morris, Marion H., Capt., 1106 N. Dearborn St., Indianapolis.
Nason, Robert A., Capt., 107 S. Harrison, Garrett.
Nelson, Paul L., Capt., 330 W. 7th St., Anderson.
Nelson, Raymond E., Capt., 1340 Sunnymede Ave., South Bend.
Norris, Ernest B., Capt., Brown St., Middlebury.
Oak, David D., Capt., La Crosse.
Oyer, John H., Major, 2403 S. Calhoun St., Fort Wayne.
Perrin, Kermit F., Lt. Col., 2701 S. Anthony Blvd., Ft. Wayne.
Peyton, Frank W., Capt., 625 Kossuth St., Lafayette.

PHYSICIANS SEPARATED FROM SERVICE

Indiana—Continued

Radivojecic, Sava M., Major, Portland.
Richardson, Charles L., Major, 506 Pontiac St., Rochester.
Romack, Howard H., Major, Greenfield.
Scherb, Burton E., Major, Clay City.
Sharp, John L., Major, 607 E. Main St., Crawfordsville.
Siewert, Otto L., Capt., 408 North St., Logansport.
Sigmund, William B., Lt. Col., 1102 Union St., Columbus.
Speas, Robert C., Capt., 611 E. 1st. St., Bloomington.
Thorne, Charles E., Capt., 1918 Walnut St., Newcastle.
Topolgus, James N., Capt., 208 S. Clark St., Bloomington.
Traver, Perry C., Col., 1010 Riverside Dr., South Bend.
Washburn, Richard N., Lt. Col., Rensselaer.
Washburn, William W., Major, 131 DeHart St., W. Lafayette.
Weber, J. G. S., Lt. Col., % B. F. Sedwick, RR1, Centerpoint.
White, James V., Lt. Col., 50 N. 7th St., W. Terre Haute.
Whitlock, Merle E., Major, 2530 Riveria Drive, Mishawaka.
Widmeyer, Chester P., Capt., % W. E. Wilder, Winslow.
Wilson, Oliver R., Capt., 242 W. Broadway, Shelbyville.
Wyttenbach, John E., Lt. Col., 5509 Kenwood, Indianapolis.
Zimmerman, Harold, Capt., 1454 Bellemeade Ave., Evansville.

Iowa

Anderson, Edward N., Major, 828 N. Gilbert St., Iowa City.
Beaumont, Fred H., Major, Bennett Bldg., Council Bluffs.
Bergstrom, Albin C., Capt., 104 N. 4th St., Missouri Valley.
Brinkhous, K. M., Lt. Col., Med. Laboratories Bldg, Iowa City.
Decker, Charles E., Major, 3 Temple Lane, Davenport.
Down, Howard I., Lt. Col., 4317 Perry Way, Sioux City.
Grossman, Edward B., Capt., Orange City.
Hogan, Paul W., Major, 25 W. Main St., Waukon.
Jacobs, Carl A., Lt. Col., Univ. Hosps. Iowa City.
Jenkins, George D., Lt. Col., 705 N. 5th St., Burlington.
King, Ross C., Capt., 2114 N. Second St. ,Clinton.
Lee, Robert W., 1st Lt., 812 4th St., Nevada.
Maiden, Snyder D., Major, 203 Bluff St., Council Bluffs.
Maresh, Gerald S., Major, 424 S. Summit St., Iowa City.
Meyer, Milo G., Lt. Col., 407 Masonic Bldg., Marshalltown.
Peggs, Harold J., Major, 720 20th St., Des Moines.
Pulliam, Robert L. Jr., Major, Univ. Hosp., Iowa City.
Randall, Charles C., Major, Univ. of Ia. Hosp. Iowa City.
Rosebrook, Lee E., Major, 903 Murray Drive, Ames.
Scanlan, George C., Capt., 922 7th St., DeWitt.
Staggs, William A., Major, 7½ S. Dubuque St., Iowa City.
Standeven, James W., Capt., Oakland.
Stegman, Jacob J., Major, Over 125 E. Main, Marshalltown.
Tinley, Robert E., Major, 219 Turley Ave., Council Bluffs.
Vaubel, Ellis K., Capt., % C. A. Christenson, Peterson.
Wicks, Ralph L., Major, Winterset.
Zarchy, Alex C., Major, 3440 Grand Ave., Des Moines.

Kansas

Baker, Joseph H., Capt., 7th & Main, La Crosse.
Brian, Robert M., Major, 417 N. Topeka Ave., Eldorado.
Carbaugh, Kenneth W., Capt., 5530 Reeds Rd., Mission.
Funk, Edward D., Capt., 1711 Van Buren St., Topeka.
Grove, W. E., Capt., Axtell Clinic, 209 E. Broadway, Newton.
Hamilton, Tom R., Capt., 2002 Olathe Blvd., Kansas City.
Hammel, Seth A., Lt. Col., 114 W. 8th St., Topeka.
Harvey, Ernest E., Lt. Col., 710 So. 10th St., Salina.
Haukenberry, Everett F., Major, Stockdale.
Helwig, Ferdinand C., Lt. Col., 2230 W. 52d St., Kansas City.
Ingham, Walton C., 1st. Lt., 1714 Ill. St., Lawrence.
Kenoyer, William R., Capt., Hugoton.
McVay, Roy B., Capt., 1503 Fifth St., Clay Center.
Mothershead, John L., Major, Denton.
Newman, Robert L., Capt., Bell Memorial Hosp., Kansas City.
Snyder, Howard E., Col., 1021 E. 9th Ave., Winfield.
Treger, Newman V., Capt., 1231 N. 4th St., Independence.
Vesper, Vernon A., Capt., Hill City.
Wall, David R., Major, 1104 N. Market St., Wichita.

Kentucky

Air, Clements W., Lt. Col., 220 Uphill St., Ludlow.
Archer, George F. Jr., Capt., 322 Kenwood Dr., Louisville.
Bieber, Herbert F., Major, 2821 Ashland Ave., Covington.
Bizot, Byron, Major, Louisville.
Boneta y Rios, Tomas L. E., Capt., Lexington Rd., Richmond.
Bryan, James W., Capt., 1601 Ky. Hotel, Louisville.
Bushart, Glynn F., Major, Fulton.
Cantey, Samuel O. Jr., Capt., Julius Marks San., Lexington.
Chappell, Claud W., Major, 3340 Robin Rd., Louisville.
Cooper, Arthur L., Major, Kentucky Theatre Bldg., Somerset.

Kentucky—Continued

Drye, James C., Capt., 1415 S. 4th, Louisville.
Fischer, Kerwin A., Lt. Col., 2924 Field Ave., Louisville.
Foltz, Louis, M., Major, 414 Browns Lane, Louisville.
Frehling, Joseph M., Major, 561 Garden Dr., Louisville.
Gaines, Frank M. Jr., Capt., 901 Highland Ave., Carrollton.
Gose, William C., Capt., Pikeville.
Gragg, Logan, Jr., Capt., RR 4, Lexington.
Hall, DeLou P., Major, 2023 Typer Lane, Louisville.
Hall, Michael M., Capt., Campbellsville.
Heizer, William L. Jr., Lt. Col., 141 Romany Road, Lexington.
Johnston, Coleman C., Lt. Col., 253 N. Broadway, Lexington.
Marshall, Jennings B., Major, 908 Brown Bldg., Louisville.
Miller, Alfred O., Major, 2321 Alta Ave., Louisville.
Olinger, William A., Capt., 110 6th St., Corbin.
Peterson, Gilman P., Capt., Cave City.
Petro, George J., 1st Lt., 3400 Lexington Rd., Louisville.
Pirkey, Everett L., Major, 1315 S. 3d St., Louisville.
Pittenger, Byron N., Capt., 249 Houston Ave., Paris.
Poe, Jean A., Capt., 510 W. State Line St., Fulton.
Prindle, Clair G., Capt., 17 E. Third St., Maysville.
Pryor, Will R., Major, 539 Garden Drive, Louisville.
Rich, Murray L., Major, 33 E. 7th St., Covington.
Robbins, Ballard F., Capt., Berea.
Rudd, Russell R., Capt., Fulton.
Towery, B. T., Capt., Box 86, Coll. Hts. Stat., Bowling Green.
Tyler, William L. Jr., Lt.Col., 403 E. Third St., Owensboro.
Weaver, Edgar S., Lt. Col., 309 Main St., Fulton.
Welte, Fred H., Major, N. E. C. 9th & Isabella Sts., Newport.

Louisiana

Akenhead, Walton R., Lt. Col., 2622 Jasmine St., New Orleans.
Burns, Cornelius B., Capt., Charity Hosp., New Orleans.
Cali, Salvatore J., Capt., 114 E. Cate St., Hammond.
Campbell, Edmond C., Capt., 320 N. 3d., Monroe.
Coleman, James A., Lt. Col., Box 142, Jena.
Digiglia, Lucas L., Capt., 2207 Woodruff St., Lake Charles.
Folk, Benjamin P. Jr., Major, Tallulah.
Gage, Idys M., Col., 1430 Tulane Ave., New Orleans.
Kelly, George P., Capt., 627 Kirby Place, Shreveport.
Knoepp, Louis F., Lt. Col., Gowen San., Line Ave., Shreveport.
McConnell, Hiram A., Major % Bunkie Clinic, Bunkie.
Norfleet, William J., Col., 835 Prospect Ave., Shreveport.
Oxford, Theodore M., Major, 1833 Line Ave., Shreveport.
Plum, John B., Major, 4237 Fountainbleu, New Orleans.
Rabinowitz, Carl H., Major, Charity Hosp., New Orleans.
Schramel, Anton J., Major, 8 Bolten Ave., Alexandria.
Simonton, Robert M., Major, 101½ S. Grand St., Monroe.

Maine

Anderson, Donald L., Capt., 8 Park St., Caribou.
Blaisdell, Elton R., Lt. Col., 12 Deering St., Portland.
Tibbetts, Otis B., Capt., R2A W. Auburn Rd., Auburn.
Wilson, Harry M., Major, Bethel.

Maryland

Brown, Webster H., Lt. Col., Johns Hopkins Hosp., Baltimore.
Curtis, Leo M., Capt., Glenn Dale Sanatorium, Glenn Dale.
Dann, Daniel I., Major, 4401 Marble Hall Rd., Baltimore.
Helms, Samuel T., Lt. Col., 305 Wendover Rd., Baltimore.
Jarvis, Jack R., Capt., Sheppard & Pratt Psychiatric Hosp., Towson.
McDonald, George, Lt. Col., 844 N. Carey St., Baltimore.
Mansfield, William K., Major, 1508 Bolton St., Baltimore.
Mirkin, Abraham J., Major, 117 S. Centre St., Cumberland.
Moran, John A., Major, S. Baltimore GH., Baltimore.
Roman, Paul W., Capt., Glenn Dale Sanatorium, Glenn Dale.
Shelley, Harry S., Lt. Col., 3849 Roland Ave., Baltimore.
Smith, Robert C., Major, Baltimore City Hosp., Baltimore.
Tuerk, Isadore, Major, Spring Grove State Hosp., Catonsville.
Wagner, Philip S., Major, 700 Cathedral St., Baltimore.
Whitridge, J. Jr., Major, Wdbrk Lane, Govans PO, Baltimore.
Wise, Walter D., Col., 8 Charlcote Pl., Baltimore.

Massachusetts

Abodeely, Robert A., Major, 530 Grafton St., Worcester.
Barry, John M., Lt. Col., 332 Haverhill St., Lawrence.
Beecher, Henry K., Lt. Col., 1144 Brush Hill Rd., Molton.
Bergan, Carl A., Capt., Huntington St., Chester.
Berkowitz, Joseph, Major, 32 Prospect St., W. Bridgewater.
Best, Lynwood K., Lt. Col., 306 N. Main St., Fall River.
Bianco, Harvey H., Capt., 23 Wall St., North Adams.
Blais, Wilfred A., Major, 186 Elm St., Pittsfield.
Blesoff, Benjamin, Capt., 326 Highland Ave., Somerville.

PHYSICIANS SEPARATED FROM SERVICE

Massachusetts—Continued

Boyer, Samuel H., Major, 77 Church St., Winchester.
Bragdon, Joseph H., Lt. Col., 111 Milton St., Milton.
Bryant, Mason David Jr., Capt., 31 Harvard St., Lowell.
Burns, John E., Major, 30 Franklin St., Milford.
Byrnes, Leo A., Lt. Col., 50 Elliott St., Holyoke.
Cincotti, John J., Major, 422 Pleasant St., Belmont.
Clark, Richard J., Major, 52 Salisbury St., Winchester.
Cogan, Michael A., Capt., 121 Chestnut St., Springfield.
Collins, James F., Lt. Col., 36 Pleasant St., Gloucester.
Crapolicchio, Dante V., Capt., 25 Shelby St., Worcester.
Criscitiello, Modestino, Lt. Col., 96 Pollock Ave., Pittsfield.
DeLong, Robert B., Capt., 18 Elmwood St., Worcester.
DePrizio, Carl J., Lt. Col., 43 N. Main St., Mansfield.
Fagan, Frederick J., Major, 759 Harrison Ave., Boston.
Flo, Spencer C., Major, 15 James St., Greenfield.
Glendy, Robert E., Lt. Col., 24 Garden Rd., Newton.
Gould, Malvin, Capt., 351 Centre St., Jamaica Plain.
Hermanson, Louis, Major, 15 Alton Pl., Brookline.
Hickey, William F. Jr., Major, 12 Edgehill Rd., Winchester.
Hurwitz, Alfred, Major, 27 Allenwood St., West Roxbury.
Hyatt, Gilbert T., Lt. Col., Scituate.
Mayo, Walter V., Capt., Box 94, Washington St., Duxbury.
Moloney, William C., Major, 39 Bay State Rd., Boston.
Mooney, Daniel Leo, Capt., 164 Colfax St., Fall River.
Morse, Chester W., Capt., 932 N. Main St., Brockton.
Murray, John M., Lt. Col., 82 Marlborough St., Boston.
Oddy, John G., Capt., 477 Essex St., Lawrence.
Poirier, Theophane M., Capt., 378 Lincoln, Marlboro.
Powers, John T. H., Major, 19 Highland Ave., Greenfield.
Rabnowitz, Henry, Capt., 45 W. Park St., Brockton.
Radcliffe, Ernest J., Major, 67 Butterfield Terrace, Amherst.
Segel, Arnold L., Major, 1959 Commonwealth Ave., Boston.
Skoog, Allan P., Major, Maple Ave., Rutland.
Smith, Jasper, A., Capt., 122 Kent St., Brookline.
Staffier, Anthony R., Capt., 87 Electric Ave., W. Somerville.
Starbuck, George W., Capt., 26 Evans Way, Boston.
Stevens, Joseph E., Capt., 254 Rogers Ave., West Springfield.
Tuohy, Edward L., Major, 17 Longfellow Rd., Cambridge.
Yankauer, A. Jr., Major, Massachusetts Gen. Hosp., Boston.
Yasuna, Elton R., Capt., 99 Vassar St., Worcester.
Young, Morris N., Major, 4 Fern St., Lawrence.
Zeltzerman, Israel, Capt., 591 Morton St., Dorchester Center.

Michigan

Ashley, Lowell B., Col., 8162 La Salle Blvd., Detroit.
Askwig, LeRoy C., Lt. Col., 2201 E. Jefferson Ave., Detroit.
Baron, Benzion C., Major, Munising.
Bausch, Richard G., Major, 77550 Hanover, Detroit.
Berry, Robert E. L., Major, 2201 Jefferson St., East, Detroit.
Birndorf, Leonard, Capt., 17566 Northlawn, Detroit.
Blair, Herbert M., Capt., Gen. Del., Sault Ste. Marie.
Brown, Byron P., Capt., 116 Pearl St., Charlotte.
Brown, Frederick W. Jr., Lt. Col., Box 347 Watervliet.
Buzzard, Walter D., Capt., 315 Wood St., Chesaning.
Caldwell, John E., Lt. Col., 18104 Oak Dr., Detroit.
Cooper, Benjamin F., Capt., 8858 E. Outer Dr., Detroit.
Daly, Byrne M., Major 207 Ellery, Jackson.
Diephuis, Bert, Capt., 42 Cass St., South Haven.
DiLoreto, Panfilo C., Capt., 3331 Charlevoix Ave., Detroit.
Douglass, Clair L., Lt. Col., 7629 Dexter Blvd., Detroit.
Eschbach, Joseph W., Major, 22375 Garrison, Dearborn.
Freedman, John, Capt., 1925 Longfellow Ave., Detroit.
Goryl, Stephen V., Capt., 3039 Crane St., Detroit.
Harper, Jesse T., Major, 8162 Jefferson Ave., E., Detroit.
Hershey, Noel J., Capt., 1630 Cedar St., Niles.
Hodgman, Albert B., Major, 1518 Henderson Dr., Kalamazoo.
Kauffman, William H., Major, 14741 Mack Ave., Detroit.
Keppen, Ford F., Major, 406 S. Elm St., Three Oaks.
Koestner, Paul A., Capt., 2642 Norton Drive, Kalamazoo.
Kuhn, Richard F., Major, 1700 Junction, Detroit.
Lentini, Nicholas, Capt., Cheboygan.
Levy, Albert H., 1st Lt., 51 Oakwood Manor, Grand Rapids.
Ley, Wilfred S., Capt., 1314 Jerome, Lansing.
Licker, Reuben R., Capt., 1020 River Rd., Marysville.
MacLean, Kenneth F., Major, Univ Hosp., Ann Arbor.
Martmer, E. E., Major, 695 Washington Rd., Grosse Pointe.
Meyers, Maurice P., Major, 16879 Baylis Ave., Detroit.
Molnar, Stephen K., 1st. Lt., 2601 S. Washington, Lansing.
Reid, Wesley G., Major, 19945 Briarcliff, Detroit.
Rice, Robert B., Capt., 17437 Palmer, Melvindale.
Rutledge, Samuel H., Capt., 171 Huron Ave., Rogers City.
Scharf, Lewis E., Capt., US. Vet. Hosp., Ft. Custer.

Michigan—Continued

Schutz, William Jack, Major, 103 Jewel St., Munising.
Scott, John A., Capt., 122 N. Thompson St., Jackson.
Scott, Robert R., Capt., 22 S. Adams, Ypsilanti.
Shelton, Carl F., Capt., 630 Merrick Ave., Detroit.
Siem Sen, Walter J., Major, 1009 Roseland Ave., Kalamazoo.
Sorock, Milton L., Major, 2202 Eaton Tower, Detroit.
Southwick, Wayne A., 1st Lt., 362 E. Main St., Springport.
Spiro, Adolph S., Capt., 12265 E. Outer Drive, Detroit.
Taylor, Nelson M., Capt., 16930 Village Lane, Grosse Pointe.
Van Loo, Jacob, Major, 422 Pleasant St., Belding.
Wallen, Leroy J., Capt., 420 Dawson St., Sault Ste., Marie.
Warnke, Robert D., Major, Receiving Hosp., Detroit.
Wurz, John F., Lt. Col., 44 Baynton Ave. NE., Grand Rapids.

Minnesota

Alexander, Harlan A., Capt., 3244 5th Ave., S. Minneapolis.
Baker, George S., Major, 814 5th St. S.W., Rochester.
Beck, Norman R., Capt., Mayo Clinic, Rochester.
Borg, Joseph F., Col., 798 Dayton Ave., St. Paul.
Creighton, Ralph H., Lt. Col., 4916 Stevens Ave., Minneapolis.
Hebbel, Robert, Lt. Col., Dept. Path. Univ. Minn. Minneapolis.
Kirklin, Byrl R., Col., 102-110 2d St., S.W. Rochester.
Kremen, Arnold J., Capt., 527 Oak St., S.E. Minneapolis.
Leighton, Robert S., Major, Gen. Del., Evansville.
Samuelson, Leopold G., Major, Mankato.
Schamber, Walter F., 1st Lt., Parkers Prairie.
Schmidt, George F., Lt. Col., 102 2d Ave., S.W. Rochester.
Snyder, John M., Lt. Col., Rochester.
Tweedy, John A., Capt., 730 5th St., S.W. Rochester.

Mississippi

Acree, Frank M., Major, 110 N. Shelby, Greenville.
Biorn, Carl L., Major, 603 5th St., Jackson.
Buckingham, Dewitt A., Capt., 3611 7th St., Meridian.
Dorsey, Charles F., Capt., 129 N. Church St., Brookhaven.
Harrell, Felix J., Major, 115 Collins, Biloxi.
Lacey, Charles F., Capt., Thomastown.
Levy, Julius L., Major, 504 West 2nd St., Clarksdale.
McCarthy, Alphonsus M., Lt. Col., Electric Mills.
Merriam, Lucius B., Major, P.O. Box 355, Waynesboro.
Nebinger, Rankin A., Major, Lexington.
Rouse, H. K. Jr., Major, 940 Second St., Gulfport.
Vanlandingham, David J., Capt., 38 Calhoun St., W. Point.

Missouri

Burford, Edgar H., Major, 8045 Crescent Dr., St. Louis.
Chalkley, Judson I., Capt., 1409 South St., Lexington.
Connor, Samuel W., Lt. Col., Camdenton.
Greene, Maurice L., Lt. Col., RRH Box 382 Lomay.
Hanser, Samuel A., Lt. Col., 3424 Longfellow Blvd., St. Louis.
Herbert, Charles T., Major, Sylvan Lane, Cape Girardeau.
Merrill, Robert L., Major, 5629 Enright Ave., St. Louis.
Napper, Marvin L., Major, 698 Cherokee, Springfield.
Neavles, Jackson C., Capt., Washington Univ., St. Louis.
Schwartz, Henry G., Lt. Col., 5065 Waterman Blvd., St. Louis.
Stacy, Winton T., Lt. Col., 2716 Francis St., St. Joseph.

Montana

Burton, Frank H., Capt., 210 Higgins Ave., Missoula.
Gans, Paul J., Major, Attix Clinic, Lewistown.

Nebraska

Azorin, Louis A., Lt. Col., 665 N. 56th Ave., Omaha.
Crook, Glenn D., Capt., 5342 Cleveland Ave., Lincoln.
Drasky, Stanley, Major, 409 S. Jeffers St., North Platte.
Kafka, Adolph J., Lt. Col., Scotia.
Moran, Clarence S., Lt. Col., 307 S. 50th St., Omaha.
Teal, Philip R., Capt., Orthopedic Hospital, Lincoln.

New Hampshire

Almquist, Fred A., Major, 70 Court St., Keene.
Beaudet, Robert O., Capt., 220 Prospect St., Franklin.
Brislin, William W., Major, Mechanic St., Alstead.
Elkavich, Frank D., Major, School St., Troy.
Fox, Nathan S., Major, Vet. Adm., Manchester.
Greenan, John C., Capt., Exeter.
Hallisey, Dennis L., Major, 12 Rockland St., Nashua.
Meany, John H., Capt., 37 Main St., Box 15, Hinsdale.
Monahan, William D., Capt., Whitefield.
Rihl, Walter A., Capt., 25 Messenger St., Lebanon.
Wlodkoski, John B., Capt., 438 E. High St., Manchester.

PHYSICIANS SEPARATED FROM SERVICE

New Jersey

Alexander, Stewart F., Lt. Col., 12 S. Main St., Park Ridge.
Altschul, Frank J., Major, 177 Garfield Ave., Long Branch.
Applebaum, Irving L., Lt. Col., 31 Lincoln Park, Newark.
Barbano, Alfred J., Capt., 224 Talmadge St., New Brunswick.
Baruch, Rudolph J., Major, 202 Stiles St., Elizabeth.
Bauman, Everett O., Capt., 17 Hillside Ave., Newark.
Betcher, Albert M., Major, 135 Belmont Ave., Jersey City.
Bigliani, Urban R., Capt., 606 80th St., N. Bergen.
Borow, Louis S., Major, 934 Park Ave., Plainfield.
Bristol, Frank E. Jr., Major, Raritan Arsenal, Metuchen.
Cohen, Meyer M., Capt., 582 E. 25th Ave., Paterson.
Cosgrove, Robert A., Lt. Col., 93 Fairview Ave., Jersey City.
Cunningham, Charles Jr., Capt., 7 & Wood Sts., Vineland.
Dershewitz, Irving S., Capt., 835 Montgomery St., Jersey City.
Durr, Walter J., Capt., 217 10th St., Hoboken.
Dyer, Edward H., Capt., 102 S. Victoria Ave., Ventnor.
Elwell, Alfred Maul Jr., 1st Lt., 407 Cooper St., Camden.
Ettelson, Lawrence N., Capt., 103 Lincoln Park, Newark.
Falcone, Nicholas A., Capt., 68 Watchung Ave., N. Plainfield.
Farr, Walter J., Major, 288 Griggs Ave., Teaneck.
Fessman, J. W., Capt., 114 E. Elements Bridge Rd., Runnemede.
Friedmann, Gustav, Major, Bonnie Burn San., Scotch Plains.
Geiger, Harold C., Capt., Macopin Rd., West Milford.
Harris, Wm. O., Capt., 32 N. New Jersey Ave., Atlantic City.
Hatcher, George A., Col., Essex County Hosp., Cedar Grove.
Hood, George B., Major, 2432 39th St., Camden.
Irving, Henry C., 1st Lt., 13 Warner Ave., Jersey City.
Judy, Kenneth, Major, 132 E. Lincoln Ave., Roselle Park.
Kearney, John F., Capt., 228 Hilton Ave., Maplewood or 1874 Springfield Ave., Maplewood.
Kehr, Herbert L., Capt., 9209 Blvd., North Bergen.
Kornfield, Norman B., Capt., 45 Church St., Montclair.
Lobban, Robert B., Col., 13 Fairmount Ter., Jersey City.
Maggio, Rosario J., Capt., 550 Carleton Rd., Westfield.
McGlade, T. H., Capt., 1225 Walnut Ave., West Collingwood.
Mecray, Paul Jr., Major, 315 Thomas Ave., Riverton.
Megibow, Harold J., Capt., 43 Arch St., Ramsey.
Mores, Herbert R., Capt., 65 Bergen Ave., Ridgefield Pk.
Morris, Nathan, Capt., 413 John St., Plainfield.
Nestor, John O., Capt., 36 Halstead St., Newton.
Pellicane, A. J., Capt., 183 Livingston Ave., New Brunswick.
Pernetti, Anthony M., Capt., 245 The By-Way, Ridgewood.
Pilloni, Louis, Capt., 91 Beach St., Bloomfield.
Pons, Carlos A., Major, 501 Grand Ave., Asbury Park.
Rauschenbach, Paul E., Major, 225 Broadway, Paterson.
Richlan, Alfred R., Capt., 173 Third St., Newark.
Riffin, Irving M., Capt., 419 Park St., Upper Montclair.
Rosenberg, Max, Capt., 1585 Wyndmoor Ave., Hillside.
Roseman, Herman I., Capt., 25 Euclid Place, Montclair.
Roth, Daniel B., Major, 140 Johnson Ave., Teaneck.
Salerno, Louis, Capt., 4 Aletha St., Clifton.
Sarno, Anthony M., Capt., 130 Parker St., Newark.
Scarlata, Salvatore P. Jr., Capt., 14 Union St., Lodi.
Schwartz, Samuel H., Major, 1044 Park Ave., Plainfield.
Siegel, Jack G., Capt., 46 Goldsmith Ave., Newark.
Small, Louis, Capt., 250 Aycrigg Ave., Passaic.
Steffens, Charles T., Lt. Col., 910 Madison Ave., Dunellen.
Tobey, John R., Capt., 11 Hazelwood Ave., Newark.
Towbin, Abraham, Capt., 4300 Park Ave., Weehawken.
Wolowitz, H. B., Lt. Col., 20 Spring Valley Ave., Hackensack.
Yoskalka, Jack S., Major, 136 Renner Ave., Newark.
Yuckman, Robert O., Capt., 307 W. Jersey St., Elizabeth.
Zager, Saul, Capt., 454 Hawthorne Ave., Newark.

New York

Adams, Vincent J., Major, 685 Lorimer St., Brooklyn.
Adler, Daniel K., Major, 102 Standart St., Syracuse.
Ainsworth, Roy C., Capt., 1139 Howard Ave., Utica.
Alpert, Harry L., Major, Main St., Harrisville.
Amato, Louis L., Capt., 2131 Belmont Ave., Bronx.
Baer, Bernhard, Major, 100 Sanford St., Yonkers.
Bain, David John, Major, New York.
Bar, Eugene, Capt., 124 E. 84th St., New York.
Barefoot, Sherwood W., Major, Bellevue Hosp., New York.
Barmeyer, George H. Jr., Capt., 42-11 215th Pl., Bayside.
Bartone, Noel F., Capt., 6 Charles St., New York City.
Bastable, Charles M., Capt., 33 8th Ave., Brooklyn.
Belser, Joseph Willard, Capt., East Greenbush.
Bernstein, J. H., Capt., % Utell Essex Hse., 160 W. 59th N. Y.
Bilotta, Walter A., Capt., 568 18th St., Brooklyn.

New York—Continued

Block, Richard M., Capt., 4763 Main St., Snyder.
Blumenthal, Sidney, Major, 1097 Park Ave., New York.
Boehm, Walter E., Major, 668 E. 221 St., New York.
Bonaquisto, Mario, Major, 1220 7th Ave., Schenectady.
Boyd, John H., Capt., 1021 Park Ave., New York.
Brady, George C., Capt., 512 Porter Ave., Buffalo.
Bracco, Donato J., Capt., 341 E. 116th St., New York.
Broad, George G., Capt., 815 Comstock Ave., Syracuse.
Buchman, Moses R., Lt. Col., 187 Fox Meadow Rd., Scarsdale.
Butler, James F., Capt., 424 Caton Ave., Brooklyn.
Cahan, Alvin M., Capt., Queens Gen. Hosp., Jamaica.
Calef, Victor, Capt., 2201 Amsterdam Ave., New York.
Campbell, Laurence M., Major, 295 State St., Lowville.
Carr, Henry A., Capt., 19 E. 93d St., New York.
Chassy, Gilbert H., Capt., 2135 Grand Ave., Bronx.
Corrado, Pietro C., Major, 35-45 81st St., Jackson Heights.
Crane, T. F., Lt. Col., N.Y. PG Hosp., 303 E. 20th St., N. Y.
Crawley, Lawrence Q., Capt., 1065 Lexington Ave., New York.
Cremona, Vincent M., Capt., 321 West 46th St., New York.
Cummins, Harvey R., Capt., 1000 Steuben St., Utica.
Della Rocca, Anthony J., Capt., 3015 Roberts Ave., Bronx.
Dent, John H., Capt., 3015 Riverdale Ave., New York.
Diamond, Abraham I., Major, 116 E. Walnut St., Long Beach.
Dickes, Robert, 1st. Lt., 160 Bennett Ave., New York.
Edelstein, Isadore S., Major, 339 Ocean Parkway, Brooklyn.
Elvin, Norris C., Capt., 672 Linden Blvd., Brooklyn.
Favata, Salvatore C., Capt., 709 E. 214th St., New York.
Gallucio, Anthony C., Major, 3860 Cannon Pl., New York.
Gottlieb, Norman T., 1st Lt., 75 East 21st St., Brooklyn.
Handelsman, B. F., Capt., 1041 Bushwick Ave., Brooklyn.
Handelsman, Milton B., Lt. Col., 145 E. 18th St., Brooklyn.
Isaac, Frank, Major, 559 West 156 St., New York.
Janeczko, Stanley H., Capt., 457 Wyona St., Brooklyn.
Kerstein, Louis N., Major, 82 Watkins Terrace, Rochester.
Leiser, Martin, Capt., 54 N. Noxon St., Poughkeepsie.
Lenz, Robert K., Capt., 141 Kingsboro Ave., Gloversville.
McDonough, Thomas C., Capt., 36 St. Paul St., Buffalo.
McGrane, James L., Capt., 198 Jewett Parkway, Buffalo.
Mohler, Sidney G., Capt., 153 Main St., Ravena, Albany.
Murphy, John J., Capt., 153 Merrick Rd., Amityville.
Newman, Herbert F., Lt. Col., 500 Bedford Ave., Brooklyn.
Ochs, Jacob, 1st. Lt., 6923 Elizabeth Ave., Arverne, L. I.
Parker, F. R., Lt. Col., Marvell Rd., R.D. Fayetteville, Dewitt.
Parsons, William B., Col., 208 E. 72d St., New York.
Rose, Irving, Capt., 5502 Kings Highway, Brooklyn.
Rulison, Foster C., Lt. Col., 1040 Ackerman Ave., Syracuse.
Schlessel, Louis, Major, 101 East Main St., Middletown.
Sesit, Myron F., Capt., 156 E. 37th St., New York City.
Terrin, Alexander J., Capt., 3099 Brighton 6th St., Brooklyn.
Townsend, Edward H. Jr., Capt., 425 E. 86th St., New York.
Weed, Jefferson, Capt., 23 Cathedral Ave., Garden City.
Weiss, Harry H., Capt., 2016 Ave. N., Brooklyn.
Whiteley, Horace W., Lt. Col., Main St., Jordon.
Wolfson, Irving, Major, 35 Barker St., Buffalo.
Wyatt, Tyree C., Col., 1904 Euclid Ave., Syracuse.
Young, William J., Capt., 572 Van Cortlandt Pk. Ave., Yonkers.
Zehner, David E., Major, 1803 67th St., Brooklyn.
Zepf, Joseph A., Capt., 316 16th St., Watervliet.
Zimmerman, I. A., Capt., 2907 Quentin Road, Brooklyn.

North Carolina

Benton, George R. J., Lt. Col., Goldsboro.
Benton, Wayne J., Capt., 633 Southeastern Bldg., Greensboro.
Bland, Charles A., Major, Forest City.
Brewton, William A., Lt. Col., Enka.
Bridges, Dwight T., Capt., Lattimore.
Calder, Duncan G. Jr., Major, 1708 Beverly Dr., Charlotte.
Farmer, William A., Major, Highsmith Hosp., Fayetteville.
Goswick, H. W. Jr., Capt., Canterbury Trail, Winston-Salem.
Hawkins, William C., Major, 83 Westwood Pl., Asheville.
James, William D., Capt., Hamlet.
Johnston, William O., Lt. Col., 2035 Briarwood Rd., Charlotte.
Jones, Otis H., Capt., Addison Apts., Morehead St., Charlotte.
Kornegay, Robert D., Capt., 503 Park Pl., Rocky Point.
Moore, Henry B., Major, Graham.
Oleen, George G., Major, City Mem. Hosp., Winston-Salem.
Patterson, Fred G., Major, Chapel Hill.
Pickard, H. M., 1st. Lt., 206 Wrightonville Ave., Wilmington.
Reavis, Charles W., Major, Kinston Clinic, Kinston.
Sinclair, Robey T. Jr., Major, Whiteville.
Smith, Charles G., Capt., W. Haven, Rocky Mount.
Stroupe, Albertus U., Capt., Mt. Holly.
Taylor, Edmund R., Capt., 408 Rosemary St., Chapel Hill.

PHYSICIANS SEPARATED FROM SERVICE

Ohio

Allen, Chester H., Major, 1417 Franklin Ave., Portsmouth.
Angerman, Walter H., Major, 14-16 Yocum Bldg., Wooster.
Axthelm, Milton F., Capt., Box 84, Caledonia.
Beale, Allen W., Capt., 1727 N. Tod Ave., Warren.
Beck, Claude S., Col., 2065 Adelbert Rd., Cleveland.
Benjamin, Julien E., Col., 3625 Wash. Ave., Cincinnati.
Berlin, Frederick P., Major, Wapakoneta.
Berndt, Albert L., Major, 1304 Gallia Ave., Portsmouth.
Berns, Charles, Lt. Col., 3065 Edgehill Rd., Cleveland Hghts.
Black, Albert V., Capt., Dayton State Hosp., Dayton.
Black, James A., Major, 7133 Montgomery Rd., Silverton.
Blandford, Sidney E. Jr., Major, 3607 Lytol Rd., Shaker Hts.
Bockoven, Harold D., Capt., Verona.
Brettell, Howard W., Major, 1132 Wellesley Ave., Steubenville.
Brugler, Guy W., Lt. Col., 2065 Adelbert Rd., Cleveland.
Champion, Phillips K., Capt., 527 Shafor Blvd., Dayton.
Clement, F. W., Major, 4120 Brookside Rd., Toledo.
Compton, William C., Major, 2870 McKinley Ave., Cincinnati.
Cross, Theodore A., Major, 1911 E. 87th St., Cleveland.
DeCicco, G. E., Capt., 454 W. Midlothian Blvd., Youngstown.
Epstein, Samuel, Capt., 168 Poland Ave., Struthers.
Everett, Clyde W., Lt. Col., City Hospital, Cleveland.
Foor, Clifford G., Major, 203 Chillicothe Ave., Hillsboro.
Frank, Samuel B., Lt. Col., % A. J. Koosed, 2033 Bunts Rd., Lakewood.
Galbreath, Walter F., Major, 300 E. McPherson, Findlay.
Galinson, Sam H., Capt., 872 Reibold Bldg., Dayton.
Goldberg, Samuel D., Major, 285 Benita Ave., Youngstown.
Gressle, George A., Major, 191 Hudson Ave., Newark.
Hartzler, Adrian J., Major, 868 Park Blvd., Wooster.
Houghton, B. C., Lt. Col., 1656 Grenoble Road, Columbus.
Jablonoski, Chester R., Capt., 9816 Robinson Ave., Garfield Hts.
Jacobs, Robert B., Capt., 2217 Patterson Blvd., Dayton.
Keyes, J. E. L., Lt. Col., 22199 McCauley Rd., Cleveland.
Kling, Herman A., Capt., Ravine Drive RD2, Youngstown.
Knickerbocker, T. W., Major, Univ. Hosp., 2065 Adelbert Rd., Cleveland.
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Laughlin, J. C., Major, St. Vincent Charity Hosp., Cleveland.
Leech, Charles H., Major, 931 W. Market St., Lima.
Lord, Sydney N., Capt., E. Main St., Somerset.
Lyon, Edward E., Major, 1838 Parkwood Ave., Toledo.
McCally, William C., Col., 2527 Derbyshire Rd., Cleveland Hts.
McKee, Wilbur E., Major, 127 S. Main St., Bryan.
Machle, W. F., Col., 2380 Madison Rd., Apt. B2, Cincinnati.
Markley, William W., Capt., University Hospital, Cleveland.
Merrill, Willis B., Major, 247 E. Whittier St., Columbus.
Miller, James E., Lt. Col., 240 Michigan St., Toledo.
Miller, Lawrence H., Capt., Granville.
Mills, Adelbert M., Capt., 2043 East 44th St., Ashtabula.
Missal, Sylvester C., Lt. Col., 7040 Broadway Ave., Cleveland.
Montgomery, Henry K., Capt., 1820 Ravenwood Ave., Dayton.
Myers, Ben V., Lt. Col., 232 E. Ave., Elyria.
Nieman, Roland E., Major, 415 Hickory St., Cincinnati.
Oberson, Emil C., Major, 6011 Brookside Drive, Cleveland.
Ondash, S. W., Major, 106 N. Belle Vista Ave., Youngstown.
Paley, Aaron, Capt., 10116 Westchester Ave., Cleveland.
Park, James H., Lt. Col., 217 Park Pl., Ashtabula.
Pennington, William A., Capt., 360 Bradford St., Marion.
Puppel, Attillio D., Major, Ashley.
Reeder, Paul A., Capt., 115 E. Walnut St., Barnesville.
Ridgeway, Joseph A., Lt. Col., 3016 W. Broad St., Columbus.
Rosenblum, Morris S., Capt., 469 Mistletoe, Youngstown.
Sanders, John H., Major, 21011 Avalon Dr., Rocky River.
Schlueter, Simon A., Lt. Col., 513 W. Market St., Akron.
Scott, Robert P., Capt., Norwalk.
Shanahan, Eugene J., Capt., 233 S. Main St., Clyde.
Shively, Russell L., Major, 1838 Parkwood, Toledo.
Sparks, Edward P. Jr., Capt., 221 S. Ohio Ave., Sidney.
Stine, George T., Lt. Col., 451 Glenmont Ave., Columbus.
Strathman, William H., Lt. Col., 5801 Lakeside Ave., Toledo.
Weiss, Adam, F., Capt., 535 Third St., Marietta.
Wheeler, William W., Major, 962 E. 152d, Cleveland.
Wilson, Gerald N., Major, 145 N. Eureka Ave., Columbus.

Oklahoma

Alexander, Robert L., Major, 723 N. Morton, Okmulgee.
Baker, Alfred T., Major, 618 N. 5th Ave., Durant.
Boone, Wilmot B., Capt., 2112 W. 41st St., Tulsa.
Border, C. L., Capt., 501 Amer. Nat'l Bldg., Oklahoma City.
Campbell, William J., Capt., 301 19th St. N.W., Oklahoma City.
Cheatwood, William R., 1st Lt., 1009 4th St., Alva.
Dunnington, William G., Lt. Col., Cherokee.

Oklahoma—Continued

Hazel, Onis G., Lt. Col., 1200 North Walker, Oklahoma City.
Hemphill, Paul H., Major, Pawhuska.
Hucherson, Denman C., Major, 800 E. 13th St., Oklahoma City.
McDonald, John E., Lt. Col., 2403 S. St. Louis, Tulsa.
Mulvey, Bert E., Lt. Col., 2632 NW 27th St., Oklahoma City.
Oglesbee, Carson L., Capt., 104 S. 3d St., Muskogee.
Parker, Edward R., Capt., 112 S. 13th St., Frederick.
Pittman, Cole D., Lt. Col., 1444 S. Florence, Tulsa.
Sayles, William J., Capt., 20 F St., SW, Miami.
Smith, Lester P., Capt., Marlow.
Stuard, C. G. Jr., Major, 108 W. 6th Med. Arts Bldg., Tulsa.

Oregon

Ebner, Clement J., Capt., Mount Angel.
Everett, Ernest G., Major, Ashland.
Gilpin, Burhl B. Jr., Capt., 202 Medford Bldg., Medford.
Hemingway, Max W., Lt. Col., 1036 Wall St., Bend.
McBride, William C. Jr., Capt., Congress Hotel, Portland
Rademacher, Clyde J., Major, 910 Broadway, Bend.
Ross, Webster K., Major, La Grande.
Tuhy, John E., Capt., 8508 SW 23d Ave., Portland.
Wells, Howard A., Major, Box 216, Redmond.
Wilbur, Robert G., Capt., 1030 Lawnridge Ave., Grants Pass.
Wiley, James W., Capt., 812 SW Washington St., Portland.

Pennsylvania

Amsterdam, Julius, Capt., 1146 W. Vanago St., Philadelphia.
Anderson, Joseph C., Capt., 202 W. High St., Ebensburg.
Ball, Thomas L., Major, 72 S. Main St., Mahonoy City.
Bar, Eugene, Capt., Milford.
Bamberger, Grant W., Major, Honey Brook, Chester County.
Becker, Philip L., Capt., 340 Ophelia St., Pittsburgh.
Bencker, Frederick W., Capt., 9 S. Columbus, Manoa.
Blank, Samuel, Major, 5702 Woodbine Ave., Philadelphia.
Boysen, Theophilus H. III, Capt., Jefferson Hosp., Philadelphia.
Burgard, L. A., Major, 7934 St. Lawrence Ave., Swissvale.
Cady, Joseph B., Lt. Col., Guthrie Clinic, Sayre.
Canfield, Richard G., Major, Pennsylvania Hosp., Philadelphia.
Canuso, Nicholas A., Major, 1812 S. 12th, Philadelphia.
Cavan, John F., Capt., 352 S. River St., Wilkes-Barre.
Chamovitz, Jerome, Capt., 116 Locust St., Aliquippa.
Cherkasky, Martin, Capt., 1815 N. Franklin St., Philadelphia.
Cope, Frederick T., Capt., 6018 Jefferson St., Philadelphia.
Crittenden, George B., Capt., 9 N. Pearl St., North East.
Crum, George E., Capt., 2404 Craftmont Ave., Pittsburgh.
Cunjak, Franklin J., Capt., 746 S. 2d. St., Steelton.
Dashe, Myer M., Capt., 606 N. 10th St., Reading.
Daugherty, Charles B., Lt. Col., 1069 Bogan Ave., Tyrone.
Davis, Jacob R., Capt., 5112 Cypress St., Pittsburgh.
Denberg, Hyman S., Capt., 5536 Columbo St., Pittsburgh.
Dietrich, Sterrett E., Col., 2695 Center St., Ingram, Pittsburgh.
DiMassa, Ernani V. M., Capt., 2123 Porter St., Philadelphia.
Donovan, William M., Major, 302 Pittston Ave., Scranton.
Drayer, Calvin S., Major, 1104 Mason Ave., Drexel Hill.
Duttenhofer, Charles S., Lt. Col., Church Town.
Eisman, S. H., Capt., 1520 Spruce St., Apt. 901, Philadelphia.
Ensminger, Chambers D., Major, 409 W. Market St., York.
Epstein, Isadore S., Capt., 5221 Lebanon Ave., Philadelphia.
Ferguson, E. R., Capt., 2300 W. Montgomery Av., Philadelphia.
Fitzgerald, Robert P. F., Capt., 14 E. Athens Ave., Ardmore.
Forrester, James S., Lt. Col., 314 Old Forrest Rd., Philadelphia.
Foust, Wilson A. Sr., Major, 251 E. Main St., New Holland.
Fronczek, William M., Capt., 324 44th St., Pittsburgh.
Gallagher, George R., Major, 7023 Upland St., Pittsburgh.
Glick, Abraham, Capt., 454 Wolf St., Philadelphia.
Greenwood, George R., Major, 564 Main St., Sugar Notch.
Harvey, Rolfe M., Lt. Col., 27 Cedarbrook Rd., Ardmore.
Henstell, Philip, (N MN) Capt., 802 N. Main St., Forest City.
Hiles, Charles H., Major, 1031 Mifflin Ave., Edgewood.
Hodes, Philip J., Lt. Col., Univ. of Penna. Hosp., Philadelphia.
Hoffstein, Louis D., Capt., 4103 Girard Ave., Philadelphia.
Holt, Frederick G., Major, 201 E. Sunbury St., Shamokin.
Ilacqua, Anthony M., Capt., 180 Green Lane, Philadelphia.
Jones, George J., 1st. Lt., 52 East Avenue, Mt. Carmel.
Kavanaugh, Myles T., Capt., 214 Chestnut St., Kingston.
Kimmel, Henry A., Major., 10 S. Main St., Lewiston.
Knowles, Willard E., Major, St. Joseph's Hosp., Philadelphia.
Laird, Archibald, Lt. Col., Wellsboro.
McCorkle, W. P. Jr., 1st Lt., 761 Sherwood Ave., Pittsburgh.
McCullough, Thomas L., Lt. Col., 601 W. Main St., Somerset.
Nagler, J. H., Capt., 1515 68th Ave., Philadelphia.
Nardone, Anthony A., Major, 1511 Tasker St., Philadelphia.

PHYSICIANS SEPARATED FROM SERVICE

Pennsylvania—Continued

Olson, Robert M., Major, 116 East Cherry St., Palmyra.
Owczykowsky, Bernard J., Major, Woodland Hts., Oil City.
Pfahl, Robert C., Major, 413 E. Lancaster Ave., Wayne.
Procopio, Joseph, Capt., 756 2d St., Verona.
Rosenbaum, Armand L., Capt., 1521 Spruce St., Philadelphia.
Rothstein, M. M., Capt., 1631 North Corles St., Philadelphia.
Shibler, Samuel W., Capt., 217 E. Main St., Carnegie.
Sims, Arthur I., Capt., 1932 Spruce St., Philadelphia.
Sommers, Elmo B., Capt., 214 E. Freedley St., Norristown.
Sposato, Emil, Major, North Main St., Ext., Washington.
Zulick, Thomas C. Jr., Lt. Col., 433 Paxinosa Ave., Easton.

South Carolina

Benet, George, Lt. Col., 1517 Hampton Ave., Columbia.
Fouche, James W., Major, 906 Barnwell St., Columbia.
Fulenwider, John O. Jr., Capt., Pageland.
Hammond, Gaines W., Capt., 154 West Lee St., Spartanburg.
Lipscomb, James E. Jr., Major, Med. Bldg., Greenville.
Miller, Samuel E., Lt. Col., State Park.
Pirkle, James C., Major, 2901 Wilmot Ave., Columbia.
Reynolds, Thomas W., Capt., 8 Court Square, Charleston.
Stewart, William J., Lt. Col., U. of Mo., Columbia.

Tennessee

Carter, H. W., Capt., 112 Tennessee Blvd., S. Murfreesboro.
Conger, Robert M., Capt., Lexington.
McKissick, John C., Lt. Col., Paris.
Phillips, James B. Jr., Capt., 806 Tremont St., Chattanooga.
Rosenkranz, Otto H., Major, 3140 Choctaw Ave., Memphis.
Russell, Alexander F., Lt. Col., Nashville GH, Nashville.
Smith, Henry C., Lt. Col., A-1 Glenncourt Apts., Nashville.
Stephenson, S. L. Jr., Major, County Health Dept., Savannah.

Texas

Alexander, Jewell C., Lt. Col., 4107 Fannin St., Houston.
Aynesworth, Morgan B., Major, 436 Rice Ave., Waco.
Beall, Wendell E., Lt. Col., Box B, Pearsall.
Bell, Robert H., Lt. Col., Box 397, Columbus.
Bennett, Thomas R. Jr., Capt., Box 604, Falfurrias.
Boykin, James M., Lt. Col., Taft.
Brady, Randle J., Lt. Col., 314 Med. Arts Bldg., Houston.
Cockrell, John A., Capt., 1307 Med. Arts Bldg., Houston.
Dailey, Jeremiah A., Major, 3924 McKinley Ave., El Paso.
Downs, James T. III, Major, 6020 Swiss, Dallas.
Duren, Norman, Capt., 2234 Liberty Ave., Beaumont.
Galt, Jabez, 1st. Lt., Box 471, Mt. Vernon.
Galt, Sidney, Major, 1610 Med. Arts Bldg., Dallas.
Gerodetti, O. F., Major 1723 Buena Vista St., San Antonio.
Giesecke, Carl G., Col., 105 W. Rosewood Ave., San Antonio.
Goldberg, M. N., Major, 904 Burk Burnett Bldg., Ft. Worth.
Gooch, James O., Lt. Col., 201 S. Main St., Shamrock.
Hardy, John M., Lt. Col., 1302 Luckett Ave., Sherman.
Hawk, Hiram P., Capt., Gainesville.
Heaney, Harry G., Capt., 130 Louisiana Dr., Corpus Christi.
Herndon, James H., Capt., 4053 Amherst, Dallas.
Hilliard, George M., Lt. Col., Baylor Hosp., Dallas.
Hollimon, James H., Capt., 4518 Dixie Drive, Houston.
Kähler, Glenn E., Major, Box 833, Post.
Kelly, Alfred J., 1st. Lt., 3100 Whitis Ave., Austin.
King, Thomas C., Major, 317 W. Cleveland, Electra.
Lacy, George W., Capt., 3200 Mt. Vernon St., Ft. Worth.
Lancaster, Howard E., Major, 112 N. St. Mary's, Beeville.
Laurentz, Fred K., Capt., Angeleton.
Lee, Jack B., Major., 2031 W. Gramercy, San Antonio.
Martin, Scott H., 1st Lt., Hamilton.
Melvin, James H. Jr., Lt. Col., 1604 Avenue D, Brownwood.
Minnett, John S., Lt. Col., 3618 Fairmount, Dallas.
O'Heeron, M. K., Major, 1625 Medical Arts Bldg., Houston.
Palmer, Joseph W., Lt. Col., 1206 W. French Pl., San Antonio.
Parmley, Van S., Capt., Electra.
Pate, Joe J., Lt. Col., 1710 2d St., Brownwood.
Pate, John W., Capt., 833 S. Davis St., Sulphur Springs.
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Rodriguez, Mamilliano J., Capt., Rio Grande City.
Rogers, Albert M., Major, Robt. B. Green Hosp., San Antonio.
Rucker, John C., Lt. Col., 3618 Fairmont, Dallas.
Sears, E. S., 1st. Lt., R 6, Box 1071, 6811 Airline Dr., Houston.
Southwick, Lloyd M., Capt., 222 E. Lovett St., Edinburg.
Stapp, Celso C., Lt. Col., % J. H. Stapp, Burnet.
Stephens, John A., Major, Paris.

Texas—Continued

Taylor, William A., Major, Mt. Pleasant.
Thomas, Clyde E. Jr., Capt., 1604 Runnels, Big Spring.
Wheeler, Frank B., Capt., Winnsboro.
Yater, Tolbert F., Major, Cleburne.
Yates, June, Major, 209 Med. Den. Bldg., Corpus Christi.

Utah

Anderson, Victor C., Capt., Park City.
Cohen, Sidney, Major, 644 N. 1st East St., Provo.
Covington, Fen H., Capt., Orderville.
Mayo, John F., Capt., 1450 Harvard Ave., Salt Lake City.

Vermont

Dempsey, William S., Major, 46 Upper Weldon St., St. Albans.
Levin, Robert M., Capt., 90 N. Winnoski Ave., Burlington.
Bloomenthal, John, 1st Lt., 139 Interval Ave., Burlington.

Virginia

Arenson, Nathan, Capt., Veterans Facility, Roanoke.
Barrow, F. P. II, Lt. Col., 200 Bay View Blvd., Portsmouth.
Commings, Pete, Major, 702½ W. Main St., Charlottesville.
Hill, William R., Major, 3510 Monument Ave., Richmond.
Houff, Louis, A., Major, 913 McCormick St., Clifton Forge.
Lefon, J. C., Capt., 2103 Maplewood Ave., Lakeside, Richmond.
Manges, Charlie F., Major, Blacksburg.
Payne, Thomas B., Capt., 1407 Sophia St., Fredericksburg.
Shepherd, Eugene B., Major, 206 W. Grace St., Richmond.
Taliaferro, William L., Major, 708 Med. Arts Bldg., Norfolk.
Toone, Elam C. Jr., Major, 1002 W. Franklin St., Richmond.

Washington

Atwood, Henry S., Capt., 2610 W. Yakima Ave., Yakima.
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Campbell, Myron M., Major, 610 Stimson Bldg., Seattle.
Cummins, Joseph L., Capt., 1102 Cobb Bldg., Seattle.
Darrough, John W., Lt. Col., 1431 Grand, Everett.
Heffron, Carroll E., Capt., 1834 24th North, Seattle.
Hoff, Cornell L., Capt., 654 Stimson Bldg., Seattle.
Millington, William A., Major, 723 37th Ave., Seattle.
Moren, Walter C., Capt., 147 N. Forest St., Bellingham.
Morley, Leonard G., 1st. Lt., Pe Ell.
Norris, Kenneth E., Capt., 1004 Summit, Seattle.
Radloff, F. F., Major, 31 Broadway St., Brdway Apts. Tacoma.
Rosdahl, Conrad E., Capt., S. 901 Lincoln, Spokane.
Torkelson, Edmund H., Capt., 4711 Aurora Ave., Seattle.
Zoet, August G., Capt., Lynden.

West Virginia

Brammer, Fred E., Major, Dehue.
Harloe, Weldon M., Capt., Matoaka.
Johnson, Philip, Major, Home Acre, Fairmont.
Murphy, Franklin B., Capt., 15 S. High St., Phillippi.
Priddy, Newton D., Major, Washington St., Ravenswood.
Watkins, David A., Capt., 101 S. Kanawha St., Buckhannon.

Wisconsin

Axel, Ben J., Capt., Waunakee.
Bresnahan, John F., Lt. Col., Vet. Administration Fac., Wood.
Dailey, Dee W., Capt., Elcho.
Gale, J. W., Col., 3520 Topping Rd., Shorewd Hills, Madison.
Goodman, P. P., Capt., 1111 N. Astor St., Apt. A 6, Milwaukee.
Gregory, Laurence W., Major, 1122 S. 8th St., Manitowoc.
Herzog, Paul, Capt., 625 57th St., Kenosha.
Kocovsky, Elmer C., Major, 6219 W. Llovd St., Milwaukee.
McCormack, Myron T., Major, 807 N. 67 St., Wauwatosa.
Nebel, John R., 1st Lt., 298 Washington St., Oshkosh.
Smith, Eldon E., Capt., 804 McIndoe St., Wausau.
Vedner, Joseph, H., Lt. Col., 308 11th St., Menomonie.
Winslow, Fitz R., Capt., 1107 Ash St., Baraboo.
Young, Joseph J., Capt., 621 S. Pierce Ave., Appleton.

Canal Zone

Maser, Louis R., Capt., % Chief Health Off., Balboa Heights.

Hawaii

Pang, David L., Major, 40 S. Vineyard St., Honolulu.

Ontario

Campbell, Ivor M., Major, 430 Gladstone, Ave., Toronto.

Puerto Rico

Basora-Defillo, Juan, Capt., Box 305, Hato Rey, Puerto Rico.
De Cardona, Jose N., Major, Isabella PR.
Salazar, Andres E., Capt., Box 1271, Ponce, Puerto Rico.

ORGANIZATION SECTION

Council on Medical Education and Hospitals

MEDICAL SCHOOL DECELERATION AND THE PHYSICIAN VETERAN

A Statement from the Council on Medical Education and Hospitals

The medical schools of the country anticipated the increased wartime need for physicians and inaugurated the accelerated program in medical education. Enrolments were increased. The program has been maintained successfully despite great losses in faculty. The medical schools submitted to the inadequate premedical programs of the armed forces and to the educationally undesirable 9-9-9 program believed to be necessary in the emergency. The medical schools have cooperated willingly and vigorously in every effort to win the war.

Now after four years, with the war won, there are responsibilities which should take precedence over the accelerated training of medical officers. These are (1) provisions for the education of physician veterans and (2) restoration of a sound educational program. Most if not all schools indicated at the recent Pittsburgh meetings of the Association of American Medical Colleges that they desire to return to the prewar program at once: to commence their 1946-1947 session in the fall, even though the 1945-1946 academic year ends in April, as is the case in most schools. A number of institutions propose to employ three to six months of this period for the education of physician veterans, particularly along externship lines. Such schools point out that the absence of juniors and seniors from the school will free the clinical facilities for the veteran physician programs.

Since large numbers of physician veterans are seeking such work, and many more will apply by spring, the schools should be permitted to develop such plans. The Navy does not object. The Army hopes to continue the Army Specialized Training Program into 1947 for all men now in the program; it is unwilling that schools under contract should decelerate. In effect, this is an arbitrary compulsion on the schools and on the vast majority of medical students, since only about 20 to 25 per cent of medical students in June 1946 will remain in the A. S. T. P. The medical schools have repeatedly adjusted to the desires of the Army. Cannot the Army now adjust to the new responsibilities of the schools, and more particularly to the needs of physician veterans seeking further education? Such needs are more compelling than the probable need for replacements two years hence. The plan outlined would not affect the supply of replacements for medical officers before that time.

Medical Legislation

MEDICAL BILLS IN CONGRESS

Federal Program for Hospital Construction

The Senate Committee on Education and Labor has favorably reported a revised version of the Hill-Burton hospital construction bill, S. 191. As reported, the bill would provide for a five year hospital construction program and authorize annual appropriations of $75,000,000 for each of the fiscal years 1947-1951 inclusive plus unappropriated and unexpended balances. It eliminates the $5,000,000 authorization that appeared in the original bill for state administrative expenses in carrying out state plans. A new provision in the reported bill denies to any federal officer or employee the right to exercise any supervision or control over the administration, personnel, maintenance or operation of any hospital with respect to which any funds are expended under the federal measure.

Veterans Administration

The House Committee on World War Veterans' Legislation has been holding hearings on a bill introduced, by request, by Representative Rankin, Mississippi, to establish a Department of Medicine and Surgery in the Veterans Administration, H. R. 4225. This bill, it is understood, was introduced at the request of the Veterans Administration and proposes a reorganization of the medical department in an effort to make available a better quality of medical care to veterans. Among other things, it would authorize the Administrator of Veterans' Affairs, on the recommendation of the Surgeon General, to employ physicians on a full time, part time or fee basis at such rates of pay as may be prescribed. This employment would be in addition to the commissioned or noncommissioned personnel of the proposed corps.

Representative Dirksen, Illinois, has introduced H. R. 4363, a bill providing special facilities for handicapped veterans. It would authorize the Administrator of Veterans' Affairs to establish not to exceed ten special schools to be known as United States veterans' universities to enable veterans handicapped by physical disabilities effectively to take advantage of the educational privileges extended by the G. I. Bill of Rights.

Discharge of Physicians

A bill introduced by Representative Traynor, Delaware, H. R. 4425, would provide for the release from active service of every commissioned officer serving in the Medical Corps, Dental Corps or Veterinary Corps of the Army or the Medical Corps of the Navy or the Navy Dental Corps who (*a*) has attained the age of 36 years and whose active service has been of a duration of two years or more since Sept. 16, 1940, (*b*) has performed active service outside the continental limits of the United States or in Alaska for one year or more since Sept. 16, 1940 or (*c*) during World War II was for thirty days or more in the hands of the enemy as a prisoner of war.

Control of Hay Fever

Representative Lane, Massachusetts, has introduced H. R. 4279, proposing an appropriation of $50,000 for expenditure, under the direction of the Surgeon General of the United States Public Health Service, for research with respect to the cause and cure of hay fever.

Coming Medical Meetings

American Medical Association House of Delegates, Chicago, Dec. 3-6. Dr. Olin West, 535 N. Dearborn St., Chicago 10, Secretary.

American Academy of Allergy, Chicago, Dec. 10-11. Dr. Karl D. Figley, 316 Michigan St., Toledo 2, Ohio, Secretary.

American Association on Mental Deficiency, Cleveland, Nov. 28-Dec. 1. Dr. Neil A. Dayton, Box 51, Mansfield Depot, Conn., Secretary.

American Ophthalmological Society, Hot Springs, Va., Nov. 12-14. Dr. Walter S. Atkinson, 129 Clinton St., Watertown, N. Y., Secretary.

American Society of Anesthetists, New York, Dec. 12-13. Dr. McKinnie L. Phelps, 745 Fifth Ave., New York 22, Secretary.

American Society of Tropical Medicine, Cincinnati, Nov. 12-15. Dr. Joseph S. D'Antoni, Tulane Ave., New Orleans 13, Secretary.

International College of Surgeons, U. S. Chapter, Washington, D. C., Dec. 7-8. Dr. Louis J. Gariepy, 16401 Grand River Avenue, Detroit, Secretary.

North Pacific Pediatric Society, Portland, Ore., Dec. 1. Dr. Aldis B. Johnson, Cobb Bldg., Seattle 1, Washington, Secretary.

Oklahoma City Clinical Society, Oklahoma City, Nov. 26-29. Dr. Elmer R. Musick, 512 Medical Arts Bldg., Oklahoma City, Secretary.

Puerto Rico, Medical Association of, San Juan, Dec. 14-16. Dr. Rafael A. Vilar, P. O. Box 3866, Santurce, Secretary.

Southern Medical Association, Cincinnati, Nov. 12-15. Mr. C. P. Loranz, Empire Bldg., Birmingham 3, Alabama, Secretary.

Southern Surgical Association, Hot Springs, Va., Dec. 4-6. Dr. Alfred Blalock, Johns Hopkins Hospital, Baltimore 5, Secretary.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

COLORADO

State Election and Meeting.—Dr. Archie C. Sudan, Kremmling, was chosen president-elect of the Colorado State Medical Society at its annual meeting in Denver, September 21. Dr. George A. Unfug, Pueblo, was inducted into the presidency. Dr. George H. Gillen, Denver, was elected vice president, and Dr. Bradford J. Murphey, Denver, was chosen secretary for a three year term. Dr. William T. H. Baker, Pueblo, was named delegate to the American Medical Association for a two year term. Among the speakers at the recent session were:

Dr. Lewis G. Allen, Kansas City, Value of the Scout Film of the Abdomen.
Dr. Theodore E. Beyer, Denver, Sialography.
Col. John Murray, M. C., Fort Logan, Management of Anxiety State of Returnees.
Allen E. Walker, P. A., Surg. (R) U. S. Public Health Service, Denver, Rapid Treatment Center Method of Handling Syphilis.
Dr. Edward R. Mugrage and Marion Rymer, both of Denver, Belle Bonfils Blood Bank.

The program also included symposiums on hepatitis, upper respiratory infections and care of amputations following operation. There was also a clinic on unusual skin cases presented by Dr. Arthur R. Woodburne, Grand Rapids, Mich. Dr. John R. Evans, Denver, was toastmaster at the banquet, at which the guest speaker was Robert L. Stearns, LL.D., Boulder, on "Postwar Science in the Light of Our War Experiences."

ILLINOIS

Oldest Practicing Physician in State.—Dr. Edmund B. Montgomery, Quincy, is said to have practiced medicine in Illinois longer than any other physician, according to recent newspaper reports. In a statement to the press Dr. Harold Swanberg, Quincy, said that Dr. Montgomery has been in active practice for sixty-seven years, that he is the oldest member of the Adams County Medical Society, joining it in 1879, and that he has been a member of the Illinois State Medical Society longer than any other physician in the state. Dr. Montgomery was born in St. Louis May 11, 1858 and graduated at Jefferson Medical College of Philadelphia in 1878.

Chicago

Leon Jacobson Named Associate Dean.—Dr. Leon O. Jacobson, assistant professor of medicine at the University of Chicago School of Medicine, has been appointed associate dean of the university's Division of Biological Sciences. Dr. Jacobson, who graduated at the medical school in 1939, has been a member of the university's staff since 1941.

George A. Wiltrakis Named to Mental Hygiene Post.—Lieut. Col. George A. Wiltrakis, M. C., on October 15 was appointed by the governor, Dwight H. Green, as deputy director of the mental hygiene service of the Illinois Department of Public Welfare. Dr. Wiltrakis, who graduated at Loyola University School of Medicine, Chicago, in 1929, has been on terminal leave from the Army since September 29, according to the Chicago *Sun*. He succeeds Dr. Conrad S. Sommer, Chicago, who went to St. Louis (THE JOURNAL, September 15, p. 221).

Meeting of Bacteriologists.—The Society of Illinois Bacteriologists will hold its fall meeting November 16 at Huyler's Restaurant, 310 South Michigan Avenue. The speakers will include:

Henry J. Gorcica, Ph.D., Production and Dehydration of Bakers' Yeast.
Howard J. Shaughnessy, Ph.D.; Albert Milzer, Ph.D.; John L. Neal, Ph.C., and Dr. Sidney O. Levinson, Studies on Irradiated Polyvalent Bacillary Dysentery Vaccine.
Dr. Preston E. Harrison, Effect of Chemotherapy on the Development of Immunity.
Joseph Zichis, Ph.D., Catherine E. Lemke, M.S., and Dr. Shaughnessy, Occurrence of Psittacosis-like Viruses in Chicago Pigeons.
Dr. Guy P. Youmans, Culture Cycle of Virulent Human Type Tubercle Bacilli.

Lying-In Hospital Observes Fiftieth Anniversary.—A program of clinics and papers formed the official observance of the fiftieth anniversary of the Chicago Lying-In Hospital and Dispensary of the University of Chicago October 29. Morning clinics were conducted by Dr. William J. Dieckmann, chief of service at Chicago Lying-In clinics, by Dr. Fred L. Adair, professor emeritus of the university and former chief of service, and four members of the Lying-In staff: Dr. Morris E. Davis, Dr. Henry C. Hesseltine, Dr. Edith L. Potter and Dr. James R. Willson. Among speakers on an afternoon program were:

Dr. Frederick C. Irving, Boston, A Blood Bank for a Lying-In Hospital.
Dr. Henricus J. Stander, New York, Teaching of Obstetrics and Gynecology.
Dr. Edwin C. Hamblen, Durham, N. C., Some Contributions of Endocrinology to Obstetrics and Gynecology.
Dr. Norman F. Miller, Ann Arbor, Mich., Hysterectomy—Therapeutic Necessity or Surgical Racket?

At dinner in the evening a check for more than $300,000 for research in the fields of eclampsia and puerperal fever was presented to Robert M. Hutchins, chancellor of the University of Chicago, by the board or directors of the hospital, where the research will be carried out.

Solomon Memorial Research Foundation.—The Dr. Jerome D. Solomon Memorial Research Foundation has recently been created to "conduct scientific investigation in the field of medicine and surgery for the relief of human suffering, irrespective of race, color or creed." The foundation is named for Captain Solomon, who died of scrub typhus at Cape Sansapor, New Guinea, September 16, aged 28. Dr. Solomon had graduated at the University of Illinois College of Medicine in 1941, becoming in the same year a lieutenant in the medical corps of the Army of the United States. He entered active duty in 1942. Joseph D. Solomon, father of Dr. Solomon, is honorary president of the new foundation. Other officers include M. Z. Holland, president; N. R. Levin, vice president; Dr. Joseph L. Wilkey, Chicago, vice president; Irv Kupcinet, Chicago *Daily Times* columnist, secretary; Zena L. Graham, assistant secretary, and William Lakritz, treasurer. Members of a medical advisory board are Drs. Morris Fishbein, chairman, Ludvig Hektoen, Andrew C. Ivy, Raymond W. McNealy, Karl A. Meyer and Samuel J. Hoffman. Research will be carried out at the Hektoen Institute, which is affiliated with the foundation. Fellowships will be awarded in projects recommended by the medical advisory committee. The foundation is now conducting a membership drive at $10 a person, and voluntary contributions are requested.

Conference on Tuberculosis.—"Control of Tuberculosis in the Metropolitan Area" will be the theme of a conference at the red lacquer room, Palmer House, November 13-14. The conference is sponsored by the Institute of Medicine of Chicago in cooperation with the Chicago Medical Society, the Tuberculosis Institute of Chicago and Cook County, the Council on Social Agencies of Chicago, and the Chicago Tuberculosis Society. Among the speakers will be:

Dr. Daniel J. Glomset, Des Moines, History and Development of Tuberculosis.
Dr. Herman E. Hilleboe, Washington, D. C., Case Finding.
Col. Midian O. Bousfield, M. C., Fort Huachuca, Arizona, Tuberculosis in Negroes.
Dr. Harry J. Corper, Denver, Fundamental Information on the Mechanism of Specific Tuberculosis Immunity.
Dr. Francis M. Pottenger Jr., Monrovia, Calif., Dietary Aspects of Tuberculosis.
Dr. William F. Petersen, Chicago, Season and Tuberculosis.
Dr. Bruce H. Douglas, Detroit, Sanatorium Facilities.
Dr. Robert G. Bloch, Chicago, The Role of General Hospitals and Clinics and the Private Physician in Tuberculosis.
Bleecker Marquette, Cincinnati, Can the Specific Effects of Housing on Tuberculosis and Health be Measured?
Metta Bean, Milwaukee, The Family Problem of the Tuberculous Patient.
Homer J. Buckley, Chicago, Education of Public Authorities and the Laity in Tuberculosis.
Dr. Arthur H. Parmelee, Oak Park, Ill., Tuberculosis in Children.
Dr. Jay A. Myers, Minneapolis, Tuberculosis as a School Problem.
Mabel E. Rugen, Michigan, The Practical Application of Instructional Methods in Schools.
Dr. Maxim Pollak, Peoria, Ill., Tuberculosis in Industry from the Viewpoint of the Physician in Industry.
Dr. Leo Price, New York, The Problem of Tuberculosis Industry from the Viewpoint of Labor.
L. E. Roark, Management's Interest in Tuberculosis Control in Industry.
Dr. Jerome R. Head, Chicago, Principles and Organization of Treatment.
Dr. Camillo E. Volini, Chicago, Pneumothorax Therapy, Including Ambulatory Pneumothorax Treatment.
Dr. William E. Adams, Chicago, Surgical Treatment of Tuberculosis.
Dr. Paul T. Chapman, Detroit, Follow-Up Problems, Including the Chronic Open Case.
Dr. Harry A. Pattison, Livingston, N. Y., Rehabilitation.

The program will also include a series of panel discussions on public financing of tuberculosis programs, the problem of the tuberculous war veteran, immunization with the bacillus Calmette-Guérin and the education of medical students and physicians in tuberculosis.

KENTUCKY

John Phair Named Health Officer of Louisville.—Dr. John J. Phair, associate professor of epidemiology, Johns Hopkins University School of Hygiene and Public Health, Baltimore, has been appointed professor and head of the department of public health and bacteriology at the University of Louisville School of Medicine and health director of Louisville and Jefferson County. He succeeds Dr. Hugh R. Leavell, Louisville, who has been given a position with the Rockefeller Foundation as assistant director for the medical sciences (THE JOURNAL, August 18, p. 1179). Dr. Phair is now in Europe as adviser to Major Gen. N. C. Stayer, director of public health, welfare and education of the United States Control Council in Germany and will assume his new work the first of the year. He graduated at the University of Cincinnati College of Medicine in 1929. Dr. Gradie R. Rowntree, Louisville, has been acting director of the city and county health unit since Dr. Leavell left Louisville last November.

LOUISIANA

Research on Enzymes.—The Smith, Kline and French Company has made a grant of $5,000 to the Alton Ochsner Medical Foundation for research in chemistry, according to Dr. Thomas P. Findley Jr., New Orleans, the research director of the foundation. This fund will be used to continue the work on enzymes which is being done by Dr. Otto Schales, New Orleans, director of the chemical research laboratory.

MISSOURI

Personal.—Dr. Curtis H. Lohr, who recently returned to his activities as superintendent and medical director of the St. Louis County Hospital, Clayton (THE JOURNAL, August 18, p. 1179), is serving temporarily as health officer of Clayton. —Dr. Raymond A. Ritter has been named chairman of the Cape Girardeau board of health.

Industrial Survey in Franklin County.—The Missouri state industrial hygiene service has recently inaugurated a series of surveys, the first of which is being conducted in Franklin County. The object of the new survey is to determine to what extent a comparatively rural county such as Franklin can support an industrial medical program. The Franklin survey is being carried out by the state industrial hygiene service in cooperation with the Franklin County Medical Society. Dr. A. Link Koven, Jefferson City, is chief of the industrial hygiene service and W. Scott Johnson is chief public health engineer. Dr. Koven recently gave a talk before the Franklin County Medical Society on "Industrial Medicine and Its Potential Importance to Franklin County."

NEW YORK

Ninety Years of Age.—Dr. Charles E. Lane, Poughkeepsie, observed his ninetieth birthday August 16. The Poughkeepsie *New Yorker* reported that Dr. Lane is still taking care of office calls.

Black Market Charged in Surgery Dressings.—John F. X. McGohey, United States attorney, announced yesterday the filing of a nineteen count criminal information charging that Irving Tow, 405 East Fifty-Fourth Street, former general and executive manager of the American White Cross Laboratories, Inc., 52 Webster Avenue, New Rochelle, diverted 627,281 yards of finished cotton piece goods that had been acquired for military surgical requirements. According to the New York *Times* the information alleges that the merchandise was sold by Tow between August 1943 and May 1944 to manufacturers of women's and children's garments for $61,385, or $10,790 above the ceiling prices.

Commonwealth Fund to Finance Study on Hospital Care.—The Commonwealth Fund has given fifteen hospitals in five counties of New York $275,000 a year for five years to finance an educational and building program of outlying hospitals, according to the Rochester *Chronicle*, October 14. Formation of a regional council with the Rochester Hospital Council as a nucleus will be the first step in setting in motion the plan, which is expected to become operative about January 1. The hospitals that applied to the fund for the approval of this region were Bath Memorial, Bath; Bethesda and St. James Mercy, Hornell; Brockport Central, Brockport; Dansville General, Dansville; Clifton Springs Sanitarium, Clifton Springs; Frederick Ferris Thompson, Canandaigua; Geneva General, Geneva; Soldiers and Sailors Memorial, Penn Yan, and Genesee, Highland, Park Avenue, Rochester General, St. Mary's and Strong Memorial, Rochester. Of the total amount of the award, $75,000 yearly is to be used for administration and educational programs and $200,000 as grants-in-aid to member hospitals in smaller communities for building programs and purchase of equipment. The educational program will be perhaps the primary function of the new council and will be on a postgraduate level. It will include organization and administration of a continuous postgraduate program for physicians and will include clinical conferences, short refresher courses and one to three year residencies and fellowships, depending on demands from the standpoint of content and time. The plan provides for a possible rotation of interns and residents among the hospitals throughout the region, a refresher course for graduate nurses, postgraduate nurse training in war management, operating room and delivery room courses, institutes and consultation and exchange opportunities for laboratory technicians, x-ray technicians, dietitians, medical record librarians, admitting officers and development of opportunities for more extensive affiliation in undergraduate nursing. Also provided is extension of consultation services in such fields as x-ray, pathology and anesthesia and for hospital administrative and departmental problems. The program also calls for meetings and regional institutes for nonprofessional as well as professional hospital personnel. The Rochester Hospital Council began as an administrators' conference body shortly after World War I and continued as such until its incorporation in December 1939.

New York City

Dental School Loses Rating on Merger with Medical School.—The council on dental education of the American Dental Association is reported to have withdrawn its rating of the School of Dental and Oral Surgery of Columbia University as a result of the recent merger of the institution's medical and dentistry faculties (THE JOURNAL, March 10, p. 606).

Institute Named for Caroline Zachry.—The Institute of Human Development will be renamed in memory of the late Caroline B. Zachry, Ph.D., who at the time of her death in February was director of the bureau of child guidance of the city board of education. The institute was established by Dr. Zachry in 1939 to bring together teachers, doctors, nurses, social workers and other professional persons, to help them to learn from one another and to work together for children. It has carried on research, supervised field studies, presented lecture courses and held workshops and seminars for advanced students in education, medicine and social work. Dr. Zachry resigned as head of the institute in 1942 to direct the city bureau. It is also planned to publish the proceedings of a one day conference on adolescents this fall as a memorial to Dr. Zachry.

Ernest Stebbins Goes to Johns Hopkins.—Dr. Ernest L. Stebbins, commissioner of health since 1942, has been appointed professor of public health administration and assistant director of Johns Hopkins University School of Hygiene and Public Health, Baltimore, *Science* reports. Dr. Stebbins graduated at Rush Medical College, Chicago, in 1929 and received his M.P.H. degree at Johns Hopkins in 1932. In 1931 he was epidemiologist with the Virginia State Department of Health and health officer in Henrico County from 1932 to 1934, when he went to the New York State Department of Health as epidemiologist. In 1937, after a period as district state health officer, he became director of the division of communicable diseases of the state health department and subsequently assistant commissioner of health. From 1940 to 1942 he was professor of epidemiology of the Columbia University College of Physicians and Surgeons.

NORTH CAROLINA

Grants for Research.—The medical relations division of Camel Cigarettes has given the Bowman Gray School of Medicine, Winston-Salem, an additional grant of $6,000 to support research on tobacco by William A. Wolff, Ph.D., associate professor of pathology. This grant brings to a total $22,651 awarded for the support of this work. A grant of $2,500 has been received from the John and Mary R. Markle Foundation to aid the research conducted by Dr. David Cayer, Durham, assistant professor of medicine, on the study of nutrition. Dr. Cayer formerly was associated with Dr. Julian M. Ruffin of the Duke University School of Medicine, Durham, in the study of vitamin levels in various deficiency states. Dr. Cayer will

continue study along the same lines under this grant. A grant has been received from the American Foundation for Tropical Medicine to aid in the publication of studies done by the department of medicine on lepromin skin reactions.

NORTH DAKOTA

Appointments to Health Department. — Three staff appointments to the state department of health have been made by Dr. George F. Campana, Bismarck, state health officer. Miss Bernardine Cervinski will be director of health education, Mr. Fred J. Baker has been assigned as chemist in the public health laboratory at Bismarck and Mr. Richard M. Ludemann will be lay venereal disease investigator for the division of preventable diseases.

New District Health Unit.—The Southwestern District Health Unit, comprising the counties of Golden Valley, Billings, Slope, Bowman, Hettinger and Adams, has been created with headquarters in New England with Dr. Mary E. W. Soules, Dickinson, as health officer. According to an announcement from Dr. George F. Campana, Bismarck, state health officer, the district board of health includes Mr. M. S. Byrne, Bowman, president; Mrs. Clara Brown, Amidon; L. S. Riley, dentist, New England; Mr. Lewis Odland, Beach; Mr. A. E. Boicourt, Medora, and Dr. John L. Dach, Hettinger.

PENNSYLVANIA

Philadelphia

Pigeons Declared "Prejudicial to Public Health." — The Philadelphia Department of Health has adopted a resolution declaring the city's public pigeons to be "prejudicial to public health," and the public health committee of the city council has amended an ordinance which will permit city officials to trap and kill the birds. From 35 to 48 per cent of a group of pigeons studied for disease recently were found infected with ornithosis. In a statement to the press, Dr. Rufus S. Reeves, director of public health, stated that the pigeons would be killed in the truck borne gas chambers of the Pennsylvania Society for Prevention of Cruelty to Animals.

Proposed Diabetic Survey. — A cooperative project will be conducted in Philadelphia to x-ray the chests of persons in the city having diabetes. The x-ray unit will be located first, beginning in late November, at the University of Pennsylvania Hospital, where there are 500 diabetic patients attending the clinic. It will then move to the Philadelphia General Hospital, where there are 1,000 diabetic patients attending the clinic. The cost of the survey will be borne by the Philadelphia Tuberculosis and Health Association. The appointment of necessary committees will be under the guidance of the Philadelphia County medical committees on diabetes and tuberculosis together with the x-ray survey committee of the Philadelphia Tuberculosis and Health Association. At the meeting September 24 at the Philadelphia County Medical Society, physicians interested in diabetes and tuberculosis discussed the various aspects of the survey, bringing out that it would be invaluable in shedding light on certain concepts long held regarding the response of diabetic patients to tuberculosis. It was further brought out that a mass survey might confirm or refute the concepts that hilar and basal sites are more frequently involved in tuberculous diabetic patients. The recording of simple data relevant to nutritional status might illumine the question as to whether or not nutritional status is one of the major factors in the increased susceptibility of diabetic patients to tuberculosis. It is proposed to divide the city into districts, installing a mobile x-ray unit in suitably located central hospitals for the x-ray examination of the diabetic patients in the vicinity and of nondiabetic outpatient controls.

TEXAS

Graduate Program on Psychiatry.—Dr. Stephen Weisz, Galveston, associate professor of neuropsychiatry, University of Texas Medical Branch, Galveston, is conducting a postgraduate program on psychiatry at the San Antonio State Hospital, San Antonio, under the auspices of the State Board of Control, the Hogg Foundation for mental hygiene and the medical school.

Beryl Burns Named Medical Director of Sealy Hospital.—Dr. Beryl I. Burns, who recently resigned as dean of the Louisiana State University School of Medicine, New Orleans, has been appointed medical director of the John Sealy Hospital and affiliated hospitals of the University of Texas Medical Branch, Galveston, effective in December. He will have charge of professional activities and will be assisted by Mr. William O. Bohman, superintendent of the hospital, in respect to administrative details. He will also act as consultant in the erection of a new general hospital building as provided by grants from the Sealy and Smith Foundation.

UTAH

New Acting Dean.—Dr. Hyrum L. Marshall, Salt Lake City, professor and head of the department of public health and preventive medicine, has been named acting dean of the University of Utah School of Medicine, Salt Lake City. The administrative committee which formerly acted in the deanship capacity has, at its request, been dissolved (THE JOURNAL, March 17, p. 665). On recommendation of the executive committee of the medical school and with the approval of the board of regents of the University of Utah, a separate department of anesthesiology has been established in the school of medicine. Dr. Scott M. Smith, St. Louis, has been named assistant clinical professor of anesthesiology and acting head of the department.

University News.—The Givaudan-Delawanna Corporation has granted to Dr. Philip B. Price, professor of surgery, University of Utah School of Medicine, Salt Lake City, $5,250 for the investigation of skin disinfection. The senior class has initiated a successful campaign to secure funds to add to the journal subscription of the medical school library. The members have assessed themselves $20 each for this purpose and from this source and others interested in the medical school have now collected more than $3,500. Dr. Randolph T. Shields, formerly surgery resident at the University of Pennsylvania School of Medicine, Philadelphia, and more recently major in the U. S. Army Medical Corps in the China-Burma-India theater, has been appointed instructor in surgery. The medical students on active duty with the armed forces, assigned to this institution for the study of medicine, have voluntarily initiated a payroll contribution plan whereby each student in the military service donates $2 a month toward a student loan fund to be used to help finance medical education of needy civilian students. At the present time this fund totals over $3,500.

WEST VIRGINIA

Charles Lively Named Permanent Secretary of State Association.—The council of the West Virginia State Medical Association October 14 elected Charles Lively, Charleston, as permanent executive secretary of the state medical association to succeed Major Joe W. Savage, who has accepted a position with the National Foundation for Infantile Paralysis, New York (THE JOURNAL, October 16, p. 472). Mr. Lively has been acting secretary of the state medical association since May 1942. The council also voted for a three day annual meeting at Huntington, May 13-15, 1946.

Review of Cancer Referrals. — In the fourteen months during which the state division of cancer control has been functioning, 703 referrals have been reviewed, a number far greater than was anticipated at the time the program was inaugurated. Of the total number of cases referred, 88.1 per cent have proved to be malignant. The amount expended for treatment exceeds $46,000. Because of the unexpectedly high number of referrals of needy cancer patients, the cancer division has restated and clarified its policies and procedures concerning the extent of care that can be provided. As a result of suggestions and recommendations made by the cancer committee of the West Virginia State Medical Association, the following policies have been adopted:

Financial assistance can be extended only to those needy cancer patients who present a good prognosis. The division is not to authorize prolonged hospitalization to the incurable case, thereby jeopardizing the treatment of those patients who have a good possibility of cure.

The division cannot assume any financial obligation for treatment or hospitalization of a case until the application has been reviewed and the necessary authorizations issued.

Services and treatment can be given only at approved treatment centers and tumor clinics.

Bruce H. Pollock Named Deputy State Health Commissioner.—Dr. Bruce H. Pollock, formerly of Huntington, has been appointed deputy state health commissioner, succeeding Dr. Albert L. Chapman, Charleston, who has been serving as acting deputy on loan from the U. S. Public Health Service since 1944. Dr. Pollock was serving as director of the bureau of county health work in the state health department when he entered the Navy in 1941 with the rank of lieutenant. He was later promoted to the rank of lieutenant commander. He was first assigned to the Norfolk Navy Yard and then served as medical and sanitary officer with a Marine air group in the South Pacific. After his return to this country he served as flight surgeon at the office of Naval Officer

Procurement, Philadelphia, and at the Naval Air Technical Training Center at Memphis, Tenn. In 1936 he was connected with the West Virginia Training Center at Beckley and was responsible for the organization of Clay, Braxton, Webster and Nicholas counties into the first district health unit in the state.

GENERAL

Braille Society Makes First Public Appeal. — The Braille Institute of America recently launched the first special appeal for funds ever made to the public in its twenty-five years' existence. An expansion program is necessary to meet the needs of returning blind service men.

Poliomyelitis Commission Goes to Brussels.—A medical commission left New York October 24 for Brussels under the auspices of the National Foundation of Infantile Paralysis to help in the epidemic of poliomyelitis in Brussels, Belgium. Members of the commission include Dr. Rustin McIntosh, director of pediatrics at Babies Hospital, New York; Dr. Charles E. Irwin, chief surgeon of the Georgia Warm Springs Foundation, and Miss Alice Lou Plastridge, chief physical therapist at Warm Springs.

Resolution Seeks Assurance of Freedom in Animal Experimentation. — The recently organized Southwestern Section of the Society for Experimental Biology and Medicine has adopted a resolution announcing its plan to request state and national legislative bodies, through their appropriate committees, to assure the freedom of responsible scientific research in biology and medicine involving animal experiments, provided always that the animals in question are properly cared for and not required to suffer pain. The resolution, which was carried unanimously by members of the Southwestern Section, emphasized that experimentation with animals under satisfactorily controlled conditions is necessary for the advancement of knowledge regarding living things and that such experimentation is continually subject to the threat of legislative interference. Chauncey D. Leake, Ph.D., Dallas, is chairman of the Southwestern Section and Dr. Donald H. Slaughter, Dallas, secretary (THE JOURNAL, Oct. 14, 1944, p. 446).

Industrial Hygiene Meeting.—The tenth annual meeting of the Industrial Hygiene Foundation will be held at the Mellon Institute, Pittsburgh, November 14-15. John F. McMahon, managing director, will open the program with a talk on "The Foundation in War and Peace." Among other speakers are:

Major Gen. Lewis B. Hershey, Washington, D. C., Industry Needs the Veteran.
Dr. Clarence O. Sappington, Chicago, A Foundation Survey of Industrial Health Departments.
Dr. Leroy U. Gardner, Saranac Lake, N. Y., Dr. Arthur G. Cranch, New York, Dr. Lloyd E. Hamlin, Chicago Heights, Ill., and Dr. Oscar A. Sander, Milwaukee, Accurate Diagnosis of Silicosis —Possible Sources of Error.
Francis R. Holden, Ph.D., Wilkinsburg, Pa., and E. C. Hyatt, Pittsburgh, Accurate Measurement of Silicosis Hazards—Newer Methods.
W. C. L. Hemeon, M.S., Pittsburgh, Findings from Foundation Plant Surveys.

Putting the Disabled Veteran Back to Work, a continuation of the panel discussions at the 1944 and 1945 meeting of the foundation, will be discussed by:

Dr. Harold A. Vonachen, Peoria, Ill., Utilizing the Physically and Mentally Handicapped Worker.
Michael Supa, Utilizing the Blind Worker.
Major Gen. Paul R. Hawley, Activities of the Veterans Administration.
Col. John N. Andrews, Washington, D. C., and I. Dent Jenkins, Lockport, N. Y., Comments on Case History Successes and Failures.

Mead Johnson and Company B Complex Award. — Nominations are solicited for the 1946 award of $1,000 established by Mead Johnson and Company to promote researches dealing with the B complex vitamins. The recipient of this award will be chosen by a committee of judges of the American Institute of Nutrition and the formal presentation will be made at the annual meeting of the institute in the spring of 1946. The award will be given to the laboratory (nonclinical) or clinical research worker in the United States or Canada who, in the opinion of the judges, has published during the previous calendar year January 1 to December 31 the most meritorious scientific report dealing with the field of the B complex vitamins. While the award will be given primarily for publication of specific papers, the judges are given considerable latitude in the exercise of their function. If in their judgment circumstances and justice so dictate, it may be recommended that the prize be divided between two or more persons. It may also be recommended that the award be made to a worker for valuable contributions over an extended period but not necessarily representative of a given year. Membership in the American Institute of Nutrition is not a requisite of eligibility for the award. To be considered by the committee of judges, nominations for this award for work published in 1945 must be in the hands of the secretary by January 10. The nominations should be accompanied by such data relative to the nominee and his research as will facilitate the task of the committee of judges in its consideration of the nomination. Herbert E. Carter, Ph.D., Noyes Laboratory of Chemistry, University of Illinois, Urbana, Ill., is secretary of the American Institute of Nutrition.

Seminar for Study of Dental Medicine.—The second annual Seminar for the Study and Practice of Dental Medicine was held in Palm Springs, Calif., October 7-12. Participants in the seminar were members of the dental profession, medical profession and research workers in the biologic sciences. The primary aim of the meeting was to study the prevention and eradication of diseases of the mouth and related areas. Among the subjects scheduled for presentation and discussion were recent advances in nutrition, endocrinology, physiology of body fluids, psychosomatic medicine and dentistry, and pathology of teeth, osseous structures and blood. Attendance at the conference was limited in number because of the seminar character of the meeting. In accord with the need for "refresher courses" for professional men returning from service with the armed forces, special consideration was given to the applications of men reentering civilian practice after military service. The seminars were approved and sponsored by the Divisions of Educational Courses of the Southern California State Dental Association, the California State Dental Association, the Oregon State Dental Association and the British Columbia Dental Association.

Tropical Medicine Meeting.—The American Society of Tropical Medicine will hold its annual meeting in Cincinnati November 13-15 under the presidency of Dr. Rolla E. Dyer, Washington, D. C. Among the speakers will be:

Manuel Martinez Baez, Salubridad y Asistencia, Mexico, and Dr. E. Harold Hinman, Mexico, D. F., Opportunities for Training and Research in Tropical Medicine and Public Health in Mexico.
Victor P. Bond, Dr. Warren L. Bostick, San Francisco, Eder Lindsay Hansen and Dr. Hamilton H. Anderson, San Francisco, Pathologic Studies in Monkey Amebiasis.
Lieut. Col. James H. Dwinelle, M. C., Lieut. Col. Charles R. Rein, M. C., Lieut. Col. Thomas H. Sternberg, M. C., Major Albert J. Sheldon, M. C., Preliminary Report on the Evaluation of Penicillin in the Treatment of Yaws.
Major Theodore E. Woodward, M. C., Lieut. Col. Cornelius B. Philip, M. C., and Lieut. Col. Ralph R. Sullivan, M. C., Tsutsugamushi Disease (Scrub or Mite-Borne Typhus) in the Philippine Islands During American Reoccupation in 1944-1945.
Drs. George T. Harrell, John Avera and Ellard M. Yow, Winston-Salem, N. C., An Attempt by Feeding to Induce in Animals Reactivity to Trichinella Spiralis in the Absence of Infection.

Papers to be presented will cover a wide range of subjects on tropical medicine, some discussing cutaneous diphtheria and chemotherapy of human filariasis. The tenth Charles Franklin Craig Lecture on Tropical Medicine will be delivered by Col. Paul F. Russell, M. C., Washington, D. C., on "Lessons in Malariology from World War II." A feature of the meeting will be the presentation of the Bailey K. Ashford Award.

Prevalence of Poliomyelitis.—Reports of cases of poliomyelitis for the week ended October 27 have been received from the division of public health methods, U. S. Public Health Service, as follows:

	Week Ended Oct. 27 1945	Week Ended Oct. 28 1944
New England		
Maine	2	0
New Hampshire	1	0
Vermont	2	0
Massachusetts	21	21
Rhode Island	0	0
Connecticut	8	8
Middle Atlantic		
New York	48	182
New Jersey	26	30
Pennsylvania	22	36
East North Central		
Ohio	29	25
Indiana	5	8
Illinois	51	27
Michigan	5	19
Wisconsin	45	5
West North Central		
Minnesota	13	24
Iowa	25	18
Missouri	14	12
North Dakota	0	0
South Dakota	0	0
Nebraska	2	4
Kansas	7	4
South Atlantic		
Delaware	3	8
Maryland	0	17
Dist. of Columbia	3	6
Virginia	9	25
West Virginia	1	8
North Carolina	4	21
South Carolina	2	4
Georgia	2	1
Florida	6	4
East South Central		
Kentucky	4	14
Tennessee	25	4
Alabama	3	4
Mississippi	4	2
West South Central		
Arkansas	0	0
Louisiana	9	4
Oklahoma	0	1
Texas	17	7
Mountain		
Montana	5	0
Idaho	2	0
Wyoming	1	0
Colorado	7	1
New Mexico	3	0
Arizona	0	0
Utah	6	0
Nevada	0	0
Pacific		
Washington	6	9
Oregon	5	3
California	36	15
Total	489	581
First 43 weeks:		
1945 and 1944	11,951	17,437
Median, 1940-1944	8,383	

Foreign Letters

LONDON

(From Our Regular Correspondent)

Oct. 6, 1945.

The Threatened Decline of the Population of Britain

In March 1944 a royal commission was appointed to investigate the course, causes and consequences of British population trends and to make recommendations on population policy. During fortnightly meetings over a period of eighteen months the commission has taken practically all the general evidence needed, but some further investigation on family size remains to be done with a sample census of 10 per cent of the 14 million married women in Britain. At the outbreak of war in 1939 it appeared that the British population would soon begin to decline. The chief factor was the fall in the average size of the family, which began in the decade of 1870. Until then married women had on an average more than 5 children. By 1930 the number was down to about 2, which made no allowance for children who died young or did not marry. The full effect of the fall in average size of family on population was not manifest until the early years of the present century, when the annual number of births began to decline. In the decade 1900-1909 the annual number of births was 1,064,000; by 1930-1939 it had sunk to 701,000, producing a profound change in the age distribution of population. In 1919 there were approximately 16 million persons under the age of 20 and in 1939 only 14 million. The war introduced a complication. The number of births in 1939 was 706,000; it dropped to 693,000 in 1940 and to 669,000 in 1941. Then began a striking rise to 745,000 in 1942, 778,000 in 1943 and 841,000 in 1944. This rise can be explained by the disappearance of unemployment and the family allowances paid to men in the fighting forces. The result was more and earlier marriages. But such a rise could not continue, if only because there were not enough girls of marriageable age. By 1943 the number of marriages was below prewar level.

In investigating the causes of the decline of the birth rate the commission found no evidence that it was due to any biologic failure or to any increase of the pathologic causes of sterility. But there was ample evidence that the immediate cause was the widespread practice of birth control. What determined the size of a family was, increasingly, the ideals and sentiments of men and women, their sense of responsibility to themselves and the community and their hopes and fears for the future. For a long time the economic and social pressures favored the small family. The commission is now examining evidence on ways and means to reduce these pressures and to encourage parenthood. Its report will be the one authoritative pronouncement on the serious question of the population of Britain.

The Wellcome Historical Medical Museum's Studies in the History of Medicine: The Development of Inhalation Anesthesia

The Wellcome Historical Museum was founded and endowed by the late Sir Henry Wellcome of the firm of Burroughs Wellcome and Co., who bequeathed his fortune for advancement of medical science. The museum has arranged to publish the first of its postwar series of Research Studies in the History of Medicine. This will be a work on the development of inhalation anesthesia, by Dr. Barbara M. Duncum of the Nuffield Department of Anesthetics, University of Oxford, and formerly on the staff of the Wellcome Historical Medical Museum. The work deals exhaustively with the history of inhalation anesthesia in England, in the United States and on the European continent from the scientific and clinical points of view. It shows as well the influence of the general current of events on this branch of surgery. Important features of the work are investigation of the various changes of opinion in regard to the physiologic action of anesthetics, the evolution and practical application of inhalers and other apparatus and the introduction of anesthetic drugs during the period under review. The work, which is illustrated by over 160 photographs and drawings, should prove of special interest to the student of medical history, since it shows how modern anesthetic methods have grown from nineteenth century beginnings. It also should be of great practical value to anesthetists and research workers in anesthetics. The book will make approximately 600 pages.

Demobilization of Doctors

Dissatisfaction continues to be expressed at the slowness of the demobilization of doctors. The air force has announced that it proposes to continue the same ratio as during the war, namely 2.3 medical officers per thousand other ranks. This contrasts with 0.7 civilian doctor per thousand of population, at which the *Lancet* expresses astonishment. The medical demands of the navy also are criticized. It is argued that something more could be done in calling up more civilian doctors to replace those in the fighting services. This of course would not relieve the shortage, but it might remove the bitterness growing among service doctors who feel that they are being unfairly treated. As stated in a previous letter, civilian medical appointments which become vacant are being kept open so that doctors in the services can apply for them on release. The *British Medical Journal* has decided that advertisements of permanent medical appointments which do not invite applications fom service doctors and allow at least four months for the receipt of applications shall be refused publication.

PARIS

(From Our Regular Correspondent)

Oct. 4, 1945.

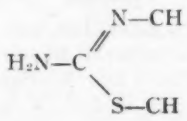
Physicians and the Plan of Social Security

The plan of social security described in a preceding letter to THE JOURNAL has given rise to discussion among French physicians, who are dissatisfied with the present bureaucratic organization of the Caisses d'assurances sociales (social insurance funds). The critics of the new plan propose mutualization, the division of funds and the free choice of affiliation; this in their opinion would be a better solution than the unification of social insurance. They oppose the proposed regulation that the insured be represented by syndicates. They believe that close collaboration of the insured in the management of the funds would be more effective if the latter elected directors directly. They regret that such a small representation (two delegates) has been given to physicians. The critics deplore the fact that the medical profession has not been given a greater responsibility in the working out of the text of the law. Physicians who are in favor of this law remark not only that it offers social and medical advantages, for instance the possibility of a larger system of preventive medicine, but that it is favorable to the medical profession. The unification of the funds on the departmental basis, the amalgamation of accident insurance in the social insurance fund, is bound to facilitate the administrative work of physicians. At the present time physicians are annoyed by the tedious clerical work of signatures and accounts, from which they will be more or less freed and consequently enabled to devote themselves to treating the sick. Extension of the social insurance system to all salaried and other workers will certainly increase the frequency of consultations. They appreciate the disappearance of private funds, which are commercial concerns and whose existence is contrary to the principle of social security. The participation of doctors in the management of the Social Insurance Institution will also enable them to protect the medical point of view.

In any case, all doctors insist on the enforcement of the three principles of (1) freedom for patients to choose their own doctor, (2) freedom for doctors to adopt any therapy and (3) professional secrecy.

Treatment of Hyperthyroidism by Aminothiazole

Thiourea and its related substance thiouracil are at present considered to be the most active agents in the treatment of hyperthyroidism. Experiments have been made in France with aminothiazole, otherwise called Abadol with the chemical structure:



The efficacy of this agent was discovered by chance. On workers handling aminothiazole, a substance which was used to prepare sulfathiazole, Dr. Jeantet of Lyons noticed an abnormal development of goiters, but without ill effects and with signs of hypothyroidism and lowering of the basal metabolism. It was sufficient to transfer the worker from one department to another to verify that the thyroid body resumed its normal size. On the contrary, the condition of hyperthyroid subjects working in the same factory was improved.

Marcel Perrault, Bovet, Prognet, Coumel and others explained their experimental and clinical studies on this substance at the meeting of the Société médicale des hôpitaux de Paris. Functional and subjective signs improve rapidly. Tremor is quickly suppressed. Tachycardia disappears and the pulse becomes normal. The weight increases by several kilograms. The basal metabolism is lowered to normal. The amount of cholesterol increases by 40 per cent, but the size of the goiter and exophthalmos does not appear to be influenced by this treatment. Aminothiazole has been administered to hyperthyroid patients in tablets of 0.1 Gm. at a rate of four a day during three to four weeks. Improvement persists in some patients after suspension of the treatment: in others, relapses take place after some weeks. Aminothiazole has not to the present time produced any toxic accidents, as mentioned by various authors, in England and in the United States in the treatment of hyperthyroidism by thiourea and thiouracil.

Second Interallied Surgical Conference on the Study of War Wounds

The second Interallied Surgical Conference took place at the military hospital Val de Grace with General Inspector Dr. Rouvillois presiding, assisted by General Inspectors Jane and Maisonnet. A considerable number of American, British, French and Belgian surgeons were present. Questions pertaining to the treatment of shock and of thoracic, abdominal and thoracic abdominal wounds were discussed, as well as cranial wounds. It was stated that local and general use of sulfonamides and penicillin constituted considerable progress for thoracic war surgery, especially penicillin injected intrapleurally. The same results were obtained in the treatment of cranial wounds, above all in the prevention of infectious complications and in the treatment of existing infections.

In the treatment of abdominal wounds, sulfonamides and penicillin did not give the anticipated results.

The conference emphasized the importance of care and of the postoperative treatment of abdominal thoracic and above all of cranial wounds. The latter ought, on principle, to be treated by neurosurgeons.

Purulent chronic pleurisy with fistulas is much less frequent than after the war of 1914-1918; in the treatment of abdominal wounds the surgical results are twice as favorable as in the last war. The third conference will take place early in November.

BRAZIL

(From Our Regular Correspondent)

RIO DE JANEIRO, Sept. 26, 1945.

Work Against Leprosy

Leprosy is a health problem of prime importance in Brazil, since there are about 50,000 cases of this disease. This explains the recent creation in the Ministry of Health of the National Institute of Leprosy with a research program and coordination of all the government and private activities in this field. The experimental studies will aim at the problems of pathology, diagnosis and treatment of the disease, as well as at its epidemiology and prevention. Before the creation of this institute the Ministry of Health, through the routine activity of the Division of Leprosy of the National Department of Health, was stimulating all sorts of investigation in this field. The Division of Leprosy has awarded cash prizes for the publication of standard monographs on such subjects as the history of leprosy in Brazil, the geographic distribution of the disease and the clinical and laboratory diagnosis of leprosy, by Drs. Armando Berti, Lauro de Souza Lima and Nelson Souza Campos respectively. An important meeting of South American leprologists was held recently at Tres Corações, in the state of Minas Gerais, under the chairmanship of Dr. Christiano Machado, state health commissioner. The meeting was sponsored by the Societies of Leprology of the states of Minas Gerais and São Paulo and by the health authorities of the two states as well as by the Brazilian federal government. The meeting was held at the Santa Fé Leprosarium in the vicinity of the city of Tres Corações, one of the largest institutions of its kind in the country. The subject for discussion was the classification of leprosy. Besides Dr. Machado, some fifty Brazilian specialists were present, among them Dr. Ernani Agricola, head of the Division of Leprosy of the National Department of Health, Dr. Nelson Souza Campos, head of the Service of Leprosy of the state of São Paulo, and Dr. Orestes Diniz, head of a similar organization of the state of Minas Gerais.

American Visceral Leishmaniasis in Vivo

A second case of autochthonous American visceral leishmaniasis in vivo has been recently reported by Dr. Armando Tavares, a pediatrician of Recife, state of Pernambuco, Brazil. The patient, a child, was treated and cured. Dr. Penna, a Brazilian physician working for the International Health Division of the Rockefeller Foundation, reported in 1934 the first instance of autochthonous kala-azar, or visceral leishmaniasis, in the Western Hemisphere in a sample of liver taken for a routine postmortem viscerotomy. Within the period of a few months 35 additional samples of liver were ascertained as positive, making up a total of 36 cases. Except for 2 cases from the Amazon Valley, all the rest were from the northeastern section of Brazil, where anti-yellow fever work is furthest developed and viscerotomy examinations are most abundant. The studies of Penna were confirmed during 1936 by Evandro Chagas and his co-workers of the Oswaldo Cruz Institute of Rio de Janeiro, who described a new species, Leishmania chagasi, and Dr. Alvaro Figueiredo of Recife, who reported a case diagnosed after death, the diagnosis having been based on the clinical picture and the formol-gel test. During the period 1936-1945 several instances of positive results were reported in liver samples from almost all the tropical sections of South America.

Early in 1941 Dr. Armando Tavares reported, to the Medical Society of the State of Pernambuco, the first case of American visceral leishmaniasis in vivo. The patient was a child aged 2 years from the country section of the state of Pernambuco presenting irregular fever dating from several months, diarrhea, profound anemia, a large abdomen in contrast to generalized emaciation, palpebral edema, enormous splenomegaly and slight hepatomegaly. The puncture of the spleen permitted the posi-

tive diagnosis of kala-azar. In spite of an intensive treatment with Neostibosan the child died, and the samples of liver taken from the body were considered typically positive by Dr. Lobato Paraense of the Division of Pathology of the Oswaldo Cruz Institute. The new case concerns a child aged 4 years, also from a country district of Pernambuco, who had fever and splenomegaly for two months. Treated unsuccessfully for malaria, the patient was brought to Recife. A puncture of the spleen was made which gave a typically positive result. This patient, treated specifically with injection of antimony preparations (Antimonaline and Antimonil) two months after the onset of the illness, recovered rapidly. Dr. Tavares points out that this second case presented an interesting symptom that did not occur in the first one: severe pain in both hypochondria, which progressively disappeared as the treatment advanced.

A Modification of the Ziehl-Neelsen Staining Method

Dr. J. Pitanga Santos recently published a paper in which he reports a modification of the Ziehl-Neelsen method of staining sputum smears for the search of tubercle bacilli. The new method differs from the Ziehl-Neelsen routine procedure only in the discoloration stage, which is performed by the use of a 25 per cent solution of sulfuric acid in distilled water instead of the common 2 per cent concentrated hydrochloric acid in ethyl alcohol, acting for at least ten minutes. Dr. Santos emphasizes that the tubercle bacillus stands the discoloration reaction even when this stage of the procedure is continued for about twenty minutes. This is the main point in the modification, since all other acid-alcohol fast germs are discolored when the sulfuric acid solution acts for ten minutes. In most cases the only acid-alcohol fast germ found in the human sputum is the tubercle bacillus (human and bovine types). Other acid fast bacilli may be found in sputum: Mycobacterium leprae, M. lacticola and some filaments of Actinomyces as well. Dr. Pitanga Santos states that, using his modification during the present year in the laboratory of a tuberculosis clinic of the Rio de Janeiro City Health Department, he has examined 1,272 samples of sputum of suspected cases, with 337 positive results, or 26.49 per cent. All these cases were considered positive for tuberculosis on the basis of the x-ray examination and the clinical findings.

Meeting of Brazilian Ophthalmologists

The twenty-third annual meeting of the Brazilian Society of Ophthalmology was held at Rio de Janeiro, September 1-6. The principal topics discussed at the meeting were the present conditions of ophthalmology in the United States (Dr. Geraldo Queiroga), the treatment of ocular syphilis (Dr. Mendonça Barros), the operation of pterygium (Dr. Laborne Tavares), ocular plastic surgery (Dr. Loch Junior), sutures in the operation of cataract (Dr. Caldas Brito), heterophoria (Dr. Nicolino Machado), binocular vision of the strabic (Drs. Paula Filho and Barbosa da Luz) and fundus oculi of the young child (Drs. L. Assumpçao Osorio and Meton de Alencar). Several inspection trips were made, and a few operations were performed during the days of the meeting.

Honoring Col. Marques Porto

Several ceremonies have taken place to honor Col. Marques Porto, head of the medical service of the Brazilian expeditionary force which operated in Italy during the last eleven months of the war. In a luncheon at the Brazilian Automobile Club, after several speeches commending the work of this leading army physician, Col. Marques Porto presented a condensed report of the achievements of the medical service under his direction. During these eleven months 10,536 wounded, sick and injured officers and soldiers were admitted to the Brazilian sections annexed to American military hospitals in Italy. Of this total 9,137, or 86.7 per cent, have recovered. Only 49 died as a result of wounds or diseases, the low fatality rate of 0.49 per cent. These good results, Colonel Porto pointed out, derived from the learning, by Brazilian physicians, of the new American war medical methods and the cordial cooperation of the U. S. Army Medical Corps. A special meeting was held by the National Academy of Medicine of Rio de Janeiro at which Drs. Leonel Gonzaga, Estelita Lins, C mplido de Santana and Oliveira Botelho spoke in praise of the distinguished services of Col. Marques Porto.

Personal

Dr. Octavio Rodrigues, Lima, has been appointed professor of obstetrics at the University of Rio de Janeiro, succeeding Dr. Fernando Magalhães. Dr. Rodrigues, Lima, an able practitioner of the specialty at Rio de Janeiro, is son of the late Dr. A. Rodrigues Lima, who was also a leading obstetrician and for some time a member of the House of Representatives of Brazil during the twenties.

Dr. J. P. Fontenelle, professor of Public Health Administration of the Course of Public Health of the Institute Oswaldo Cruz, has resigned the post of director of the Division of Health Information of the Rio de Janeiro City Department of Health. Dr. Paulo P. da Rocha has been appointed in his place.

Lieut. Comdr. Moacyr Itapicurú Coelho of the Brazilian Navy Medical Corps died at the age of 37 when the cruiser *Bahia* exploded in the South Atlantic last month.

Dr. Carlos V. Costa Lima of the Brazilian Navy Medical Corps has been promoted to the grade of rear admiral and appointed surgeon general of the same corps.

After the regular competitive examinations, Drs. Roberto Pimenta de Mello, Ernani Martins da Silva, Eitel Moreira Duarte, Gobart A. Costa, F. Rocha Lagoa, Haity Moussatché and Ulysses Vianna Dias have been appointed to the Institute Oswaldo Cruz of this city. The first two of these new members of the institute will work in the division of hematology, the third in the division of pathology, the fourth and fifth in the division of bacteriology and the last two in the division of physiology.

Dr. Einor H. Christopherson, formerly head of the American Technical Mission which worked jointly with the Special Service of Public Health (the SESP), the main project of which is the sanitation of the Amazon Valley, has been awarded by the Brazilian government the medal of the Cruzeiro do Sul (Southern Cross) in recognition of his meritorious services to the health of Brazil. The ceremony of the bestowal of the decoration took place at the Itamaraty Palace, where the Brazilian state department is housed.

Marriages

William Hutchinson Sprunt III, Winston-Salem, N. C., to Miss Priscilla Wood Perry of Washington, D. C., September 28.

Charles Rupert McAdams Jr., Belmont, N. C., to Miss Bette Jane Silcox of Philadelphia in New Orleans, September 14.

Joseph Hartshorn Perry III, Wynnewood, Pa., to Miss Marian Elizabeth Goodale of Mifflintown, August 4.

Thomas Lewis Martin, Greenville, S. C., to Miss Eyleen Miriam Runge at Belton, August 31.

Durwood J. Thibaux Jr. to Miss Marie Solorge Derelle, both of New Orleans, recently.

Herman F. Flanigin Jr., Oklahoma City, to Miss Thelma Thiessen of Hydro, July 29.

Abraham Kositsky, Drake, N. D., to Miss Susan Shore in Ottawa, Ont., August 5.

Roland L. Kleeberger to Miss Lois Marie Melichar, both of Omaha, June 30.

Deaths

Fauntleroy Flinn, Decatur, Ill.; Medical College of Virginia, Richmond, 1914; specialist certified by the American Board of Radiology, Inc.; member of the American Medical Association, Radiological Society of North America, Inc., and the American College of Radiology; past president of the Decatur Medical Society; past president and secretary of the Illinois Radiological Society; at one time with the U. S. Bureau of Mines; member of the advisory board of the state division of cancer control; supervised the x-ray and radiologic departments at St. Clara's and Deaconess hospitals in Lincoln, St. Anthony's Hospital in Effingham, Shelby County Memorial Hospital in Shelbyville and the Kirby Hospital in Monticello; on the staffs of the Wabash Employees' Hospital and St. Mary's Hospital, where he died July 26, aged 55, of chronic myocarditis.

Albert Henry Andrews, Chicago; State University of Iowa College of Medicine, Iowa City, 1889; member of the American Academy of Ophthalmology and Otolaryngology and the American Broncho-Esophagological Association; specialist certified by the American Board of Otolaryngology; from 1933 to 1944 instructor in otolaryngology at Northwestern University Medical School; formerly associate professor of otology, laryngology and rhinology at the Illinois Post-Graduate Medical School; on the staff of the Wesley Memorial Hospital; oculist and aurist, Chicago, Rock Island and Pacific Railway System; died October 1, aged 83.

Adam D. Schlotthauer ✠ Newport, Wash.; College of Medical Evangelists, Loma Linda-Los Angeles, 1918; served as health officer of Pend Oreille County; at one time superintendent of the Walla Walla Sanitarium in College Place; on the staff of St. Luke's Hospital in Spokane, where he had served as vice president of the staff; on the staff of the Newport Community Hospital; past president and charter member of the Kiwanis Club; died in the Deaconess Hospital, Spokane, July 16, aged 65, of intestinal obstruction, postoperative to gastric resection for duodenal ulcer.

James Henry Keeling, Knoxville, Tenn.; New York Medical College and Flower Hospital, New York, 1914; member of the American Medical Association; president of the state board of medical examiners; awarded the Purple Heart and decorated by the British for service during World War I; served as an examiner of draftees for World War II, receiving a citation from President Roosevelt for his extraordinary work in that capacity; on the staff of Fort Sanders Hospital, where he died September 1, aged 54, of rheumatoid arthritis.

George Randolph Harris ✠ Pittsburgh; University of Pittsburgh School of Medicine, 1914; served as secretary and executive secretary of the Allegheny County Medical Society; committee member and delegate to the Medical Society of the State of Pennsylvania, in which he held the office of speaker of the House of Delegates at the time of his death; served during World War I; for many years examiner for the Civil Aeronautics Administration; formerly on the staff of the Passavant Hospital; died October 2, aged 54, of massive cerebral hemorrhage.

Enos B. Allen, Trenton, N. J.; Cleveland Homeopathic Medical College, 1899; on the staff of the William McKinley Memorial Hospital; died July 31, aged 71, of coronary occlusion.

James Ellison Anderson, Fearn Springs, Miss.; University of Louisville (Ky.) Medical Department, 1910; died July 25, aged 59, of pulmonary tuberculosis.

Elmer Eugene Babcock, Redlands, Calif.; College of Physicians and Surgeons of Chicago, 1884; died July 15, aged 86, of heart disease.

Joseph Henry Baker, Aliquippa, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1893; died July 28, aged 80, of senility.

William Franklin Baker, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1898; served on the faculty of his alma mater; past president of the Philadelphia County Homeopathic Medical Society; formerly superintendent of St. Luke's Hospital; died in the Episcopal Hospital June 27, aged 69.

Joseph DeVere Barber, Westerly, R. I.; College of Physicians and Surgeons, medical department of Columbia College, New York, 1893; member of the American Medical Association; on the staff of the Westerly Hospital; died July 27, aged 74.

Joshua R. Bechtel, Lawrence, Kan.; Kansas Medical College, Medical Department of Washburn College, Topeka, 1900; member of the American Medical Association; on the staff of the Lawrence Memorial Hospital; died July 26, aged 80, of arteriosclerosis.

James R. Bell, Fairfield, Neb.; Ensworth Central Medical College, St. Joseph, Mo., 1907; died in the Mary Lanning Memorial Hospital, Hastings, July 30, aged 72, of heart disease.

Elmer Elsworth Bowser, Tulsa, Okla.; Howard University College of Medicine, Washington, D. C., 1914; affiliated with the State Hospital for Negro Insane in Taft; died July 8, aged 58.

Howard Conley Brashear ✠ Mexico, Mo.; St. Louis University School of Medicine, 1917; fellow of the American College of Surgeons; served in the medical corps of the U. S. Army during World War I; staff surgeon at the State Hospital in Fulton; member of the consultant staff of Ellis Fischel Hospital in Columbia and staff member of the Audrain Hospital; died July 27, aged 54, of carcinoma of the lung.

Frank Nesdil Bresnihan ✠ Cambridge, Mass.; Tufts College Medical School, Boston, 1913; died in the Somerville (Mass.) Hospital July 29, aged 59, of congestive heart disease.

Embry Allen Buckley, Little Rock, Ark.; University of Tennessee Medical Department, Nashville, 1908; for many years affiliated with the Republic Mining and Manufacturing Company Hospital in Bauxite; died in the Baptist State Hospital July 14, aged 61, of coronary thrombosis.

Peter Alfonso Callahan, Philadelphia; Jefferson Medical College of Philadelphia, 1927; served as a captain in the medical corps, Army of the United States, from July 1942 to Aug. 23, 1943, when he was released from active duty; died in the Nazareth Hospital May 22, aged 47, of bronchopneumonia.

Lowell Holbrook Chamberlain ✠ Des Moines; Jefferson Medical College of Philadelphia, 1900; also a graduate in pharmacy; member of the Society of American Bacteriologists; died July 22, aged 68, of second degree burns resulting from an accidental explosion.

Louis Warren Chilton Sr., Goliad, Texas; Louisville (Ky.) Medical College, 1890; county health officer; died in Balmorhea July 4, aged 77, of coronary thrombosis.

Fount Randall Boyd Coggin, Waverly, Ala.; University of Alabama School of Medicine, 1911; member of the American Medical Association; died in LaFayette July 9, aged 67, of pneumonia and heart disease.

Albert S. J. Collins ✠ Monticello, Ark.; Memphis (Tenn.) Hospital Medical College, 1894; honorary member of the Arkansas Medical Society; served as coroner for Monticello; died in Little Rock July 27, aged 74, of arteriosclerotic heart disease and hypertrophy of the prostate.

Arthur Rockwell Couch, Hartford, Conn.; New York Homeopathic Medical College and Hospital, 1905; member of the American Medical Association; past president of the city board of health; on the staff of the Hartford Hospital; died July 9, aged 66, of coronary thrombosis and cirrhosis of the liver.

Robert Roscoe Cutler, Washington, Mo.; St. Louis College of Physicians and Surgeons, 1915; member of the American Medical Association; president of the Franklin County Medical Society; served during World War I; on the staff of St. Francis Hospital; died July 5, aged 56, of coronary occlusion.

Ross Gilbert Downs, Newark, Ohio; Ohio Medical University, Columbus, 1897; member of the American Medical Association; died in St. Anthony's Hospital, Columbus, July 4, aged 76, of abdominal cancer.

Thomas Latane Driscoll, Columbia, Va.; University of the South Medical Department, Sewanee, Tenn., 1906; member of the American Medical Association; at one time on the faculty of the Medical College of Virginia, Richmond; served during World War I; a major in the medical corps, Army of the United States, during World War II; relieved from active duty April 17, 1943; attending physician at the Cumberland prisoner of war camp; died May 30, aged 61.

William LaFayette Freeman ✠ St. Cloud, Minn.; Rush Medical College, Chicago, 1903; on the staffs of the Veterans Administration Facility and St. Cloud Hospital; died July 18, aged 64, of coronary thrombosis.

Edgar S. B. Geesaman, Fort Calhoun, Neb.; John A. Creighton Medical College, Omaha, 1912; member of the American Medical Association; died July 16, aged 57, of coronary thrombosis.

Howard Alva Garner, Hanna, Ind.; Indiana University School of Medicine, Indianapolis, 1920; member of the American Medical Association; past president of the La Porte County Medical Society; county deputy coroner; died in the Porter Memorial Hospital, Valparaiso, July 18, aged 56, of cerebral hemorrhage.

Logan Gragg, Lexington, Ky.; Medical College of Ohio, Cincinnati, 1891; member of the American Medical Association; died July 26, aged 77, of heart disease.

Robert Bragg Hagood, Lowndesboro, Ala.; Medical Department of Tulane University of Louisiana, New Orleans, 1905; member of the American Medical Association; died July 31, aged 65, of bacterial endocarditis.

John William Handy, Flint, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1884; member of the American Medical Association; emeritus member of the Michigan State Medical Society; past president of the Genesee County Medical Society, which honored him in 1934 when he completed fifty years in the practice of medicine; died July 28, aged 92, of cerebral thrombosis and arteriosclerosis.

Julian E. Hanna, Noblesville, Ind.; Medical College of Indiana, Indianapolis, 1905; died July 29, aged 74, of carcinoma of the pancreas.

Arthur Gordon Hodgins ✠ Honolulu, Hawaii; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1896; fellow of the American College of Surgeons; past president of the Hawaii Territorial Medical Association; served as a member of the Territory of Hawaii Board of Health; surgeon, Queen's, Kauikeolani Children's and St. Francis hospitals, and Kapiolani Maternity Home; died in July, aged 69.

Howard Edward LeCates, Delmar, Del.; University of Maryland School of Medicine, Baltimore, 1913; member of the American Medical Association; physician for the Pennsylvania Railroad; member of the library commission of Delmar; on the staff of the Peninsula General Hospital, Salisbury, Md.; died July 19, aged 57.

Christopher Fahrer Mack, Richmond Hill, N. Y.; New York University Medical College, 1898; died in Forest Hills, July 23, aged 79, of intestinal carcinoma.

James Edgar Maulding, Washington, D. C.; Howard University College of Medicine, Washington, 1897; died in the Washington Sanitarium, Takoma Park, Md., August 6, aged 77, of congestive cardiac failure and coronary arteriosclerosis.

Charles Knight McCarthy, Webster City, Iowa; Tufts College Medical School, Boston, 1930; member of the American Medical Association and the Massachusetts Medical Society; served as director of activities for the control and prevention of tuberculosis, Iowa State Department of Health; had been affiliated with the division of tuberculosis of the Massachusetts Department of Public Health; died July 10, aged 49, of coronary heart disease.

Lieut. Joshua Warfield Baxley III (MC), U.S.N.R., 1916-1944

Capt. James Canfield Fisher M. C., A. U. S., 1913-1945

Major Barney Lihn M. C., A. U. S., 1909-1944

Joseph Harold Henry, Detroit; Detroit College of Medicine, 1906; died in Gaylord, Mich., July 18, aged 73, of angina pectoris.

Robert Y. Henry, St. Louis; Homeopathic Medical College of Missouri, St. Louis, 1891; died July 12, aged 76, of cerebral hemorrhage.

KILLED IN ACTION

Joshua Warfield Baxley III, Ellicott City, Md.; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1941; interned at the University Hospital in Baltimore; began active duty as a first lieutenant (jg) in the medical corps of the U. S. Naval Reserve on July 15, 1942; attached to the U. S. S. *Bristol;* promoted to lieutenant; awarded the European-African-Middle Eastern Area campaign medal and Purple Heart; officially reported to be missing in action as of Oct. 13, 1943, having been aboard the *Bristol* when that vessel was torpedoed and sunk in the Mediterranean off the coast of Algeria; presumptive date of death Oct. 14, 1944, according to the Navy Department, aged 28.

James Canfield Fisher, Arlington, Vt.; Harvard Medical School, Boston, 1939; interned at the Newton Hospital in Newton, Mass., and the Boston City Hospital; began active duty as a first lieutenant in the medical corps, Army of the United States, on June 20, 1942; later promoted to captain; killed in action in Luzon, P. I., January 31, aged 31.

Barney Lihn, Vineland, N. J.; Temple University School of Medicine, Philadelphia, 1934; member of the American Medical Association; interned at St. Peter's General Hospital in New Brunswick; began active duty as a first lieutenant in the medical corps, Army of the United States, on July 16, 1941; promoted to captain and major; headquarters flight surgeon, 313th Troop Carrier Group; killed in action in the European theater of operations June 7, 1944, aged 34.

Thomas Garrett Pretlow, Chester, Va.; University College of Medicine, Richmond, 1903; member of the American Medical Association; for many years county coroner; died July 8, aged 66, of coronary occlusion.

Allen Dorsey Rebo, Scott, Ark.; American Medical University, Kansas City, Mo., 1927; died July 15, aged 40, of hemorrhage from stomach and bowels and carcinoma.

Sidney Mitchell Roberts, Chicago; Loyola University School of Medicine, Chicago, 1917; served during World War I with the Civilian Conservation Corps, the induction board of the Selective Service and as a member of the adjudication board of the Veterans Administration Facility in Hines, Ill.; died in Sparta, Wis., July 16, aged 56, of coronary occlusion and diabetes mellitus.

Lily Theresa Roche, Rochester, N. Y.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1905; died in the Danbury (Conn.) Hospital June 8, aged 77.

Robert Arnold Schoonover ✠ Greensboro, N. C.; Baltimore Medical College, 1905; past president of the Guilford County Medical Society; for twenty-one years consulting physician at the Greensboro College; died in St. Leo's Hospital July 24, aged 65, of carcinoma of the rectum.

Thomas Dow Summerford, Caraway, Ark.; University of Tennessee Medical Department, Nashville, 1916; died in the Baptist Memorial Hospital, Memphis, Tenn., June 16, aged 63.

Jay Dunham Thomas, Springfield, Ohio; Medical College of Ohio, Cincinnati, 1895; at one time Clark County coroner; formerly secretary and member of the staff of the Springfield City Hospital; served as superintendent of the Clark County Tuberculosis Sanatorium; formerly tuberculosis expert with the regional offices of the U. S. Veterans Bureau in Cincinnati; died June 23, aged 77, of primary anemia.

Ansel Lee Van Horn, Chandler, Ariz.; the Hahnemann Medical College and Hospital, Chicago, 1907; served as a member of the board of directors of the local chamber of commerce; died June 28, aged 67.

William Edward West, Garnerville, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1895; formerly on the staff of the Sydenham Hospital and with St. Bartholomews Clinic, both in New York; died June 24, aged 75.

George Louis Wurtzel, New York; College of Physicians and Surgeons, Baltimore, 1912; member of the American Medical Association; served during World War I; on the staffs of the New York Post-Graduate Medical School and Hospital, the Reconstruction and Park East hospitals; died June 28, aged 57.

LIEUT. (JG) KENNETH J. MURRAY (MC), U.S.N.R., 1912-1945

LIEUT. (JG) WILLIAM E. STRUBE (MC), U.S.N.R., 1914-1945

CAPT. MANNING LIONEL NELSON JR. M. C., A. U. S., 1917-1945

William W. Scott, Elk Creek, Va.; Medical College of Virginia, Richmond, 1884; died July 15, aged 89, of cerebral hemorrhage.

KILLED IN ACTION

Kenneth Joseph Murray, Brookline, Mass.; Jefferson Medical College of Philadelphia, 1941; interned at the Hartford Hospital, Hartford, Conn.; began active duty as a lieutenant (jg) in the medical corps, U. S. Naval Reserve, on July 12, 1943; assigned to Naval Receiving Station in Boston, Medical Field Service School at Camp Jeune, N. C., and Camp Pendleton in San Diego, Calif.; for a year before his death was on active duty in the Pacific; in February 1944 participated in the invasion of the Marshall Islands, in June that same year in the Saipan invasion and in the following month in the Tinian invasion; in October 1944 was made battalion surgeon; for his heroism on Saipan received the Bronze Star and the Presidential citation; killed in the Pacific in February, aged 32, during the invasion of Iwo Jima.

William Ernest Strube, Fort Worth, Texas; Baylor University College of Medicine, Dallas, 1941; interned at the Naval Hospital in Great Lakes, Ill.; entered the U. S. Navy as an acting assistant surgeon, lieutenant (jg) in June 1941; began active duty in the same grade in the medical corps of the U. S. Naval Reserve on Nov. 18, 1942; for six months on recruiting duty with the Marines in San Antonio; later ordered to Butte, Mont., where he remained until he received orders to report to San Francisco for sea duty; served aboard the *Hazelwood* 1943; held the Navy-Marine Corps Medal, Purple Heart, Asiatic Pacific Area Campaign Medal and American Defense Service Medal; participated in twelve major engagements; died in the Asiatic area April 29, aged 31, of extreme multiple injuries.

Manning Lionel Nelson Jr., North, S. C.; Medical College of the State of South Carolina, Charleston, 1942; interned at the Columbia Hospital in Columbia, S. C.; began active duty as a first lieutenant in the medical corps, Army of the United States, on July 1, 1943; later promoted to captain; killed in action in the Pacific Ocean area March 28, aged 27.

Correspondence

DRUGS AND PALMAR DERMATOSES

To the Editor:—The report on Dermatoses of the Hands by Drs. C. Guy Lane et al. (THE JOURNAL, August 4) is of considerable interest, since a hypothesis has been proposed which may be of aid to physicians in the diagnosis of dermatoses. The authors have indicated that in at least 36 per cent of their cases the cause was not known. It would seem desirable to determine the possible influence of drugs as etiologic factors. In the abstract of discussion, Comdr. Marion B. Sulzberger (MC), U.S.N.R., spoke of other factors, including certain foods or drugs, which should be considered in the differential diagnosis of dermatoses.

May I suggest that palmar lesions may be caused by a few of the well known and commonly used drugs. The sulfonamides, especially sulfapyridine, the iodine and bromine containing compounds, antipyrine, arsenic and gold compounds and insulin have been reported responsible for palmar lesions. Since the majority of these agents are used in the therapy of chronic disease, their influence on such lesions might well be overlooked unless the history of each patient is taken carefully.

Diodoquin, a hydroxyquinoline containing 60 per cent or more of iodine, may cause extensive dermatitis covering the entire body (Norman David, personal communication). In this patient the diagnosis of fungous infection was made because of tropical residence five years previously.

The authors have stressed the importance of self medication and the mistake that patients not infrequently make in believing that their dermatitis is due to a fungous infection.

Should drugs be responsible for the dermatosis, it would seem unwise to administer sulfonamides as suggested by the authors, since patients with unusual sensitivity to one chemical type may have some sensitivity to others.

Finally, it should be emphasized that infectious agents other than those noted by the authors have been responsible for palmar lesions and should be considered in the differential diagnosis.

HAMILTON H. ANDERSON, M.D., San Francisco.
Professor of Pharmacology, University of California Medical School.

FAVISM

To the Editor:—A boy aged 2 years of Italian parentage was admitted to the hospital because of dysphagia of about eighteen hours' duration, increasing pallor and mild jaundice of about twenty-four hours' duration, vomiting, malaise and generalized weakness. The child was well nourished. The skin and sclerae had a mild icterus. There was a distinct pallor to the skin. The spleen was not palpable. The temperature was 99.8 F. Otherwise the physical examination was negative. Laboratory studies revealed 25 per cent hemoglobin, 1,390,000 red blood cells and 45,650 white blood cells with 70 per cent polymorphonuclear leukocytes and 30 per cent lymphocytes. The urine showed 10 mg. of albumin. A tentative diagnosis of acute hemolytic anemia was made, the etiology to be determined. Erythrocyte fragility tests were normal. X-ray studies of the skull revealed no changes to be compatible with Cooley's anemia. Transfusions were given and the blood picture was restored to about normal. Improvement was gratifying on the second day of admission, and for the remaining three days of hospitalization he was symptom free.

The child had eaten several fava beans just prior to the onset of his attack. Favism is an acute hemolytic anemia caused by contact with the fava bean or the plant from which it comes. This condition is relatively common in the Mediterranean countries. To the best of our knowledge it has been reported on only three occasions in this country. The fava bean, although not common in this country, is grown and eaten by persons of Mediterranean origin in many sectors of the United States. Favism should therefore be considered when acute hemolytic anemia occurs in persons of Mediterranean origin.

It appears likely that many more cases of favism would be discovered if this condition should be kept in mind.

HERBERT E. SPAULDING, M.D.
WALTER J. LEVINSKY, M.D.
Erie, Pa.
Attending pediatrician and attending pediatric intern, respectively, Hamot Hospital.

HEAT FOR RELIEF OF ITCHING DUE TO SENSITIVITY

To the Editor:—I was much interested in the communication of Dr. Francis E. Park in the August 15th issue of THE JOURNAL.

Some years ago I developed an itching of the dorsum of both feet, which was intense and kept me awake nights. After unsuccessful treatment by two dermatologists, I consulted Dr. Marion Sulzberger, who immediately recognized that I was allergic to the leather in my shoes. He advised my changing to white shoes and this effected a cure. Since then I have found that it was only tan leather or tan leather lining of black shoes which caused itching. Black shoes with black, gray or white lining caused no trouble.

Before my cure I tried many antipruritic ointments, powders and liniments with little or no relief. But I learned that immersing my feet for ten to fifteen minutes in very hot water caused at first such an intensification of the itch that, in the words of Dr. Park, "it was almost a pleasure." After that the itching was relieved for the whole night and I was able to sleep.

MARKS S. SHAINE, M.D., New York.

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

BOARDS OF MEDICAL EXAMINERS BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of the boards of medical examiners and boards of examiners in the basic sciences were published in THE JOURNAL, Oct. 6, page 478.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: Parts I and II, Nov. 12-14. Exec. Sec., Mr. E. S. Elwood, 225 S. 15th Street, Philadelphia.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF DERMATOLOGY & SYPHILOLOGY: *Written. Group B.* April 22. *Oral. Group A and B.* June 6-8. Final date for filing application is March 1. Sec., Dr. George M. Lewis, 66 E. 66th St., New York 21.

AMERICAN BOARD OF INTERNAL MEDICINE: *Written.* Various centers, Feb. 18. Final date for filing application is December 1. Asst. Sec., Dr. W. A. Werrell, 1 W. Maine St., Madison, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral.* Chicago, May 27. Final date for filing application is Feb. 1. Sec., Dr. P. C. Bucy, 912 S. Wood St., Chicago 12.

AMERICAN BOARD OF OPHTHALMOLOGY: Chicago, Jan. 18-22 and Los Angeles, Jan. 28-Feb. 1. Sec., Dr. S. Judd Beach, 56 Ivie Rd., Cape Cottage, Me.

AMERICAN BOARD OF OTOLARYNGOLOGY: Spring 1946. Sec., Dr. Dean M. Lierle, University Hospital, Iowa City, Ia.

AMERICAN BOARD OF PEDIATRICS: *Oral.* Atlantic City, Dec. 7-8. Sec., Dr. C. A. Aldrich, 115½ First Ave., S.W., Rochester, Minn.

AMERICAN BOARD OF PSYCHIATRY & NEUROLOGY: *Oral.* New, Dec. 20-22. Chicago, May 24-25. Final date for filing application is February 1946. Sec., Dr. Walter Freeman, 1028 Connecticut Ave., N.W., Washington 6, D. C.

AMERICAN BOARD OF SURGERY. *Written.* Part I. Spring 1946. Final date for filing application is Dec. 1. Sec., Dr. J. Stewart Rodman, 225 South 15th St., Philadelphia.

AMERICAN BOARD OF UROLOGY: *Written.* Various centers, Dec. 9. *Oral.* Chicago, February 1946. Sec., Dr. Gilbert J. Thomas, 1409 Willow St., Minneapolis 4.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1935 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

70:1-60 (July) 1945

Tuberculin Reaction in Children with Ghon Complex. Review of 112 Cases. M. A. Norval.—p. 1.
Infantile Dwarfism (Encephalomyelitis) in Siblings. J. Monfort, S. H. Polayes and R. Sorkin.—p. 4.
Contribution to Knowledge of Laurence Moon-Biedl Syndrome: Three Cases of Monstrous Infantile Obesity. E. Jaso and A. Arbelo Curbelo.—p. 9.
Massive Infection with Trichuris Trichiura in Children: Report of 4 Cases, with Autopsy. L. Getz.—p. 19.
*Immunity Response of Mothers and Babies to Injections of Pertussis Vaccine During Pregnancy. Pearl Kendrick, Mary Thompson and Grace Eldering.—p. 25.
Preventive Care of Infants and Children: I. First Postnatal Family Interview. C. A. Tompkins.—p. 32.

Response to Pertussis Vaccine During Pregnancy.—Kendrick and her associates report opsonocytophagic reactions to Hemophilus pertussis in 99 pregnant women, of whom 57 were immunized with pertussis vaccine and 42 were nonimmunized. A pronounced rise in opsonins was observed after injections of vaccine. The ratio of the average opsonic reaction of nonimmunized to that of immunized women was 1:2. The opsonins of the babies were of a lower titer than those of their mothers; the ratio of the titers of the babies to those of their nonimmunized mothers was 1:2.2, and the corresponding ratio for the immunized group was 1:1.5. With respect to the babies, the ratio for the nonimmunized to the immunized group was 1:2.9. These results indicate that placental transfer of pertussis circulating antibodies does occur and that the higher the level in the mother, the more nearly does the titer of her baby approach her own.

American Journal of Psychiatry, New York

102:1-144 (July) 1945

Development of Statistics of Mental Disease in United States During Past Century. H. M. Pollock.—p. 1.
*Effects of Psychologic Deprivation in Infancy and Subsequent Stimulation. W. Goldfarb.—p. 18.
Clinical and Electroencephalographic Studies of Changes of Cerebral Function Associated with Variations in Blood Sugar. H. Strauss and I. S. Wechsler.—p. 34.
Factors Affecting Electroencephalogram of Patients with Neurosyphilis. M. Greenblatt and S. Levin.—p. 40.
Electroencephalographic and Clinical Effects of Electrically Induced Convulsions in Treatment of Mental Disorders. B. K. Bagchi, R. W. Howell and H. T. Schmale.—p. 49.
Amnestic Confabulatory Syndrome (Korsakoff Psychosis) Following Head Injury. A. P. Friedman and C. Brenner.—p. 61.
Spontaneous and Induced Epileptiform Attacks in Dogs, in Relation to Fluid Balance and Kidney Function. F. M. Allen.—p. 67.
Psychiatric Study of Absence Without Leave. M. S. Guttmacher and M. A. Stewart.—p. 74.
Delinquents in Army: Statistical Study of 500 Rehabilitation Center Prisoners. A. J. N. Schneider and C. W. LaGrone Jr.—p. 82.
The Sexual Psychopath in Military Service: Study of 270 Cases. L. H. Loeser.—p. 92.
Psychiatric Objectives in Army. W. C. Menninger.—p. 102.
Delayed Action of Insulin in Schizophrenia. F. J. Braceland, L. J. Meduna and J. A. Vaichulis.—p. 108.
Observations on Private Practice of Psychiatry. W. Muncie.—p. 111.

Psychologic Deprivation in Infancy.—A group of 15 children admitted to an institution in early infancy and remaining under institutional care for an average of thirty-two months was later transferred to foster homes. These children were paired with children who had been in foster homes and had not had other than family rearing. All the children were given tests of intellect, language, motor coordination, social maturity and personality. Data were first gathered when the institution children were still in the institution and again after they had been in foster homes for seven months. In the first series of tests the institution children were inferior to the foster home children in intellectual performance in activities with requirements for both verbal and nonverbal reaction, in vocabulary and in language. The mean intelligence of the institution children was inferior in terms of a normal group, while the mean intelligence of the foster home group was within the average ranges. The institution children tended to be more removed in their reaction to the examiner and to the test material. The Rorschach test results tended to confirm their general immaturity in comparison to the foster home children. There were no differences in social maturity or in motor coordination. In no area were the institution children superior to the foster home children. After the institution children had had seven months of placement experience the foster home children were still superior in intellectual performance and in language performance. The institution children were no longer differentiated from the foster home children in such qualities as friendliness to strange adults and curiosity and interest in material objects. Relative to their age group, the institution children dropped in social maturity following the foster home experience. This may be due to the trauma of separation from the familiar environment. That the institution child's initial experience in placement did not diminish the gap in mental performance between institution child and foster home child seems to strengthen the hypothesis that psychologic deprivation in infancy produces a lag in mental growth which is maintained even under new conditions of enriched stimulation. The language deficiency of the institution children is a factor retarding them. An extensive period of deprivation of babies in an infant institution is profoundly detrimental to their psychologic growth.

American Journal of Tropical Medicine, Baltimore

25:177-292 (May) 1945

Malaria and Filariasis in Returning Serviceman. L. T. Coggeshall.—p. 177.
*Clinical and Public Health Aspects of Malaria in the United States from a Historical Perspective. E. C. Faust.—p. 185.
Laboratory Studies of Saimiri-Hemagogus Cycle of Jungle Yellow Fever. M. Bates and M. Roca-Garcia.—p. 203.
*Immunization Against Yellow Fever: Studies on Time of Development and Duration of Induced Immunity. K. C. Smithburn and A. F. Mahaffy.—p. 217.
Studies on Cyclic Passage of Yellow Fever Virus in South American Mammals and Mosquitoes: Marmosets (Callithrix Aurita) and Cebus Monkeys (Cebus Versutus) in Combination with Aedes Aegypti and Hemagogus Equinus. Mary B. Waddell and R. M. Taylor.—p. 225.
Isolation of Yellow Fever Virus from Wild Caught Marmosets. H. W. Laemmert Jr. and L. De Castro Ferreira.—p. 231.
Teaching of Tropical Medicine in the United States. L. E. Napier.—p. 233.
Chemotherapy of Experimental Histoplasmosis in White Mice. B. M. Levy.—p. 241.
Experiments to Determine Potential Mosquito Vectors of Wuchereria Bancrofti in Continental United States. W. L. Newton, W. H. Wright and I. Pratt.—p. 253.
Tests of Mercury and Antimony Compounds in Dirofilaria Immitis and Litomosoides Carinii Infections. A. H. Lawton, F. J. Brady, A. T. Ness and W. T. Haskins.—p. 263.
*Chemotherapy of Human Filariasis by Administration of Neostibosan. J. T. Culbertson, H. M. Rose and J. Oliver-Gonzalez.—p. 271.
Penicillin Treatment of Early Yaws. R. R. Tompsett and G. L. Kauer.—p. 275.
Survival Time of Trophozoites of Endameba Histolytica and Its Practical Significance in Diagnosis. H. Tsuchiya.—p. 277.
Ichthyotoxism—Fish Poisoning: Report and Review. R. K. C. Lee and H. Q. Pang.—p. 281.

Malaria in the United States.—During the recent war the malaria case rate in soldiers who had not been outside the continental United States has constituted a small fraction of that in the first world war. This has been due to efforts within the posts and those of public health agencies immediately around the camps. This joint control has also had its favorable effects on the nearby civilian communities. Because of suppressive chemotherapy in hyperendemic malarious areas of military operations outside the continental United States, materially aided by malaria surveys and control operations, malaria is no longer a serious clinical problem within controlled military zones. Moreover, falciparum malaria is usually liquidated by adequate

suppressive treatment, but vivax malaria is subject to repeated relapses up to two years. Thus, vivax cases among military personnel returning to the United States constitute a potential hazard. In addition, civilians and merchant seamen who have not been under strict military discipline and have been exposed to malaria overseas constitute a grave potential risk. Faust stresses the need for (1) more extensive consciousness of malaria in patients appearing for consultation and treatment, not only in highly endemic territory but in areas of milder endemicity and in nonmalarious regions; (2) increased accurate blood-film diagnosis; (3) treatment of all malaria patients with adequate amounts of antimalarial drugs until cure is effected; (4) inquiry by all physicians consulted by veterans, merchant seamen or civilians who have been overseas, regarding a history of malaria or exposure to malaria, and notification to local health authorities of potential malaria carriers; (5) a minimum food ration for the poorer elements of our population which is quantitatively and qualitatively adequate to produce resistance to disease, and (6) serious consideration of the advisability of instituting suppressive antimalarial therapy to populations in hyperendemic foci.

Immunization Against Yellow Fever.—Smithburn and Mahaffy found that protective antibody against yellow fever virus is demonstrable in the serum of rhesus monkeys within six or seven days after inoculation with standard 17D yellow fever vaccine virus. Rhesus monkeys are completely resistant to the inoculation of highly virulent pantropic yellow fever virus within five or six days after injection of 17D vaccine. This resistance is present prior to the appearance in the serum of demonstrable protective antibody. Protective antibody is demonstrable in man in a high percentage of cases by the tenth day after injection of 17D vaccine and may be present as early as the seventh day. Postvaccination surveys of immunity were made in persons inoculated in Africa with 17D vaccine and revealed the following: 1. Of the military personnel sampled one to twenty-two months after vaccination, 92.2 per cent exhibited protective antibody. 2. Ninety per cent of civilians inoculated in Kenya exhibited protective antibody in their serums twenty-three to thirty-six months after receiving the vaccine. 3. More than 90 per cent of persons vaccinated in Uganda had protective serums after three years, and there was no decline in the incidence of immunity during the third year. 4. The percentage of children who became immune as the result of inoculation was as great as that in adults, and the antibody response was equally well maintained.

Chemotherapy of Human Filariasis.—Thirty patients with filariasis (Wuchereria bancrofti) were treated with neostibosan for intervals ranging from thirty-three to forty-eight days. By the sixth month after treatment had ended, microfilariae had disappeared from 7 of the patients and had declined in all but 1 patient. In 15 of the 30 treated patients, over 80 per cent of the microfilariae were lost during the six months of observation. Among 15 control untreated patients with filariasis, followed for the same period as those under treatment, 13 showed an increase in microfilarias, 1 showed a small decline and 1 presented no change in the number of circulating parasites.

Archives of Ophthalmology, Chicago

34:1-82 (July) 1945

Enucleation of Eyeball: Practical Suggestions for Obtaining Satisfactory Cosmetic Results. D. B. Kirby.—p. 1.
Precisional Errors in Measurement of Squint and Phoria. O. A. Putnam and J. V. Quereau.—p. 7.
Clinical Use of Ophthalmic Prisms (Metric). L. H. Hardy.—p. 16.
*Cataract and Other Congenital Defects in Infants Following Rubella in Mother. J. C. Long and R. W. Danielson.—p. 24.
*Evaluation of Toxoplasma Neutralization Tests in Cases of Chorioretinitis. J. M. Heidelman.—p. 28.
Herpes Zoster Ophthalmicus: Report of Cases and Review of Literature. A. E. Edgerton.—p. 40.

Cataract and Other Congenital Defects Following Rubella in Mother.—Long and Danielson report 6 cases in which mothers had contracted rubella when from two to six weeks pregnant. Three of the babies born to them presented bilateral cataracts which were associated with bilateral microphthalmos. Three babies had unilateral microphthalmos with a distinctive type of cataract in the smaller eye. Lesions were observed in the fundi in the three eyes of this series in which the fundus could be seen. All 6 children had cardiac defects. There was 1 case each of talipes valgus, cryptorchism, hypospadias and dacryostenosis. The authors believe that the cataracts, the microphthalmos, the lesions of the fundus and the cardiac defects are the result of intrauterine damage by rubella.

Toxoplasma Neutralization Tests in Chorioretinitis.—Heidelman performed 269 neutralization tests in serums from 211 persons. These serums were obtained from patients with various forms of uveitis or other types of congenital or acquired ocular disease and from normal persons, including parents of patients with congenital chorioretinitis. Strong to moderate neutralization of Toxoplasma was obtained with the serum of 63 per cent of 27 patients with congenital chorioretinitis, 14 per cent of 97 patients with anterior or posterior uveitis and 10 per cent of 58 normal persons other than the parents of infants or children with congenital chorioretinitis. Of 9 patients with congenital chorioretinitis and other evidence of toxoplasmosis, only 5 had antibodies. Antibodies were present in 6 of 7 mothers of patients with congenital chorioretinitis. It would appear that the demonstration of the neutralizing antibody should be considered a factor of moderate diagnostic value only in patients with congenital chorioretinitis. Its absence from serum does not rule out the possibility of toxoplasmic infection. The neutralizing antibody is of low titer, is thermolabile and shows a tendency to disappear from the blood serum in a few weeks, although it may persist for fifteen months or longer, possibly even indefinitely in some cases. Aside from possible instances of familial infection, Toxoplasma neutralizing antibodies may be demonstrated in 10 to 14 per cent of persons without clinical manifestations of toxoplasmosis as the disease is at present understood. It is probable that in some of these persons the antibodies are nonspecific.

Canadian Medical Association Journal, Montreal

53:1-98 (July) 1945

Results of Penicillin Therapy: Report for Joint Services Penicillin Committee. R. F. Farquharson, P. Greey and S. R. Townsend.—p. 1.
Sulfonamide Dermatitis. N. M. Wrong.—p. 9.
Chronic Post-Traumatic Head Symptoms. W. D. Ross and F. L. McNaughton—p. 12.
Right Colon Resection. R. V. B. Shier.—p. 18.
Anesthesia in the Aged. E. H. Watts.—p. 20.
Sodium Pentothal in Major Orthopedic Surgery. L. M. Hampton. —p. 25.
Distribution of Rh Factor in Jewish Mothers and Infants and Incidence of Hemolytic Anemia in Jewish Newborn Infants. H. Lubinski, B. Benjamin and G. J. Strean.—p. 28.
Avoidance of Untoward Effects of Estrogenic Therapy in Menopause. J. S. Henry.—p. 31.
Drainage of Common Duct in Obstructive Jaundice (Choledocholithiasis). J. C. Schwartzman and E. Bien.—p. 37.
Tuberculoma of Brain. M. H. Campbell.—p. 41.
Methyl Bromide Poisoning: New Industrial Hazard. N. Viner.—p. 43.
Recognition and Prevention of Late Toxemia of Pregnancy in Its Incipient Stages. H. F. Dyer.—p. 45.
Endometriosis. D. M. Low.—p. 49.
Adenoma of Liver. A. Branch, D. J. Tonning and G. F. Skinner.—p. 53.

Cancer Research, Baltimore

5:449-496 (Aug.) 1945

Fluorescence Studies of Carcinogens in Skin: II. Mouse Skin After Single and Multiple Applications of 20-Methylcholanthrene. W. L. Simpson and W. Cramer.—p. 449.
Changes in Epidermal Cholesterol During Methylcholanthrene Carcinogenesis in Mice. L. F. Wicks and V. Suntzeff.—p. 464.
Further Studies on Mode of Origin of Carcinomas of Skin. R. A. Willis.—p. 469.
Effect of 3,4-Benzpyrene on Autoxidation of Unsaturated Fatty Acids. G. C. Mueller and H. P. Rusch.—p. 480.
Testing Carcinogen Analogues for Carcinogenic Activity. E. C. Dodds, W. Lawson and P. C. Williams.—p. 485.

Hawaii Medical Journal, Honolulu

4:285-338 (July-Aug.) 1945

Diagnosis and Treatment of Bronchogenic Carcinoma. H. D. Adams. —p. 287.
Diagnosis of Cancer of Gastrointestinal Tract. A. C. Clasen.—p. 290.
Surgical Treatment of Cancer of Gastrointestinal Tract. H. K. Gray. —p. 296.
Transient Pulmonary Infiltrations (Loeffler's Syndrome): Report of Case. H. C. Gotshalk.—p. 302.

Journal of Infectious Diseases, Chicago

77:1-84 (July-Aug.) 1945

Sylvatic Plague Studies: V. Determination of Vector Efficiency. C. M. Wheeler and J. R. Douglas.—p. 1.
Intraspinal Inoculation of Infective Human Stools as Method of Producing Poliomyelitis in Monkey. J. L. Melnick, Dorothy M. Horstmann and R. Ward.—p. 13.
Studies on Immunization of Guinea Pigs Against Brucella Infection. I. Live, F. G. Sperling and E. L. Stubbs.—p. 16.
Types of Eberthella Typhosa Found in Georgia During Four Year Period 1941-1944. Janie F. Morris, Alice Brim and T. F. Sellers.—p. 25.
In Vitro Opsonic Tests with Plasmodium Gallinaceum and Plasmodium Lophurae. A. Zuckerman.—p. 28.
*Precipitation Test in Infective Hepatitis. L. Olitzki and H. Bernkopf.—p. 60.
Problem of "Dangerous Carrier" of Hemolytic Streptococci: I. Number of Hemolytic Streptococci Expelled by Carriers with Positive and Negative Nose Cultures. M. Hamburger Jr., Margaret J. Green and Virginia G. Hamburger.—p. 68.
Studies of Nutrition and Avian Malaria: III. Deficiency of "Folic Acid" and Other Unidentified Factors. A. O. Seeler and W. H. Ott.—p. 82.

Precipitation Test in Infective Hepatitis.—Olitzki and Bernkopf found that 94 of 102 serums from patients with infective hepatitis gave a positive precipitin reaction with cholesterolized alcoholic extracts of liver or spleen tissue treated with ether. Antigens from normal subjects as well as from infective hepatitis cases elicited a positive reaction. Sixty-four of 330 serums from subjects with diseases other than infective hepatitis gave positive reactions. Nearly all the nonspecific positive reactions could be eliminated by prior heating of the serum (fifteen minutes at 60 C.). There is a considerable difference in antibody content between hepatitis serum and positive serums from other sources. Eighty-six per cent of the hepatitis serums gave a positive reaction even when 0.02 cc. or less of serum was employed in the test, whereas serums from other origins failed in most cases to elicit a precipitation reaction when less than 0.1 to 0.05 cc. of serum was employed. Although the test does not conform with the strict requirements of serologic diagnosis, it nevertheless demonstrates a considerable serum difference between serums of persons with infective hepatitis and those with other conditions.

Journal of Investigative Dermatology, Baltimore

6:191-234 (June) 1945

Group Specificity of Epidermal Allergy to Procaine in Man. S. Rothman, F. J. Orland and P. Flesch.—p. 191.
Studies on Eczematous Sensitizations: Specificity of Sensitization from Point of View of Chemical Configuration. A Rostenberg Jr. and N. M. Kanof.—p. 201.
Testing of Fungicides Insoluble in Water. A. B. Hillegas and E. Camp.—p. 217.
Certain Statistical Considerations in Patch Testing. C. R. Henderson and E. C. Riley.—p. 227.
Note on Statistical Probabilities of Finding Hypersensitive Subjects in Random Samples. Lila F. Knudsen.—p. 231.

J. Neuropathology & Exper. Neurology, Baltimore

4:195-304 (July) 1945

Nucleus Eminentiae Teretis, Corpus Pontobulbare and Their Fiber Connections: Studies in Abnormally Developed and Pathologic Cases. O. Marburg.—p. 195.
Cerebral Changes in Course of Pernicious Anemia and Their Relationship to Psychic Symptoms. A. Ferraro, S. Arieti and W. H. English.—p. 217.
*Histopathology of Muscles in Spinal Type of Progressive Muscular Atrophy. G. B. Hassin and W. Dublin.—p. 240.
Cerebral Hemiatrophy (Diffuse Sclerotic Type of Schob). H. Josephy.—p. 250.
Reparative Processes in Subarachnoid Hemorrhage. B. J. Alpers and F. M. Forster.—p. 262.
*Western Equine Encephalitis: Pathogenesis of Pathologic Lesions. H. H. Noran and A. B. Baker.—p. 269.
Physiochemical Effects of Electrically Induced Convulsions: Cerebrospinal Fluid Studies. M. Spiegel-Adolf, E. A. Spiegel, E. W. Ashkenaz and A. J. Lee.—p. 277.
Hemangioma of Medulla Oblongata. C. I. Owen, J. E. Webster and E. S. Gurdjian.—p. 291.
Focal Autonomic Representation in Cortex and Its Relation to Sham Range. Margaret A. Kennard.—p. 295.

Histopathology of Muscles in Progressive Muscular Atrophy.—Hassin and Dublin obtained material from a typical case of Aran-Duchenne's type of progressive muscular atrophy. They stress that progressive muscular atrophy, type Aran-Duchenne, and progressive muscular dystrophy are the most common forms of muscular wasting. Both types possess some features that are alike but differ in their intensity and extensity. In progressive muscular atrophy the spinal cord is severely involved, which is not the case in progressive muscular dystrophy. In both the changes are degenerative, analogous to those obtaining in muscle fibers divided by a sharp instrument. The degenerative changes in the muscles are accompanied by phenomena of myophagia, in analogy to those of neuronophagia observed in damaged central nerve fibers. The function of the myophages is like that of neuronophages, to remove the damaged tissue and render it harmless. Signs of mesodermal reaction—multiple scar formation—are absent in progressive muscular atrophy, and signs of fatty transformation (lipomatosis) are more manifest in cases of progressive muscular dystrophy. Pathologic changes justify the opinion that, in spite of the presence of Heubner's endarteritis, syphilis is not the cause of progressive muscular atrophy.

Pathologic Lesions in Western Equine Encephalitis.—According to Noran and Baker the western variety of equine encephalitis has been recognized as one of the most prevalent forms of encephalitis. In the summer of 1941 alone 1,700 cases were recorded in Minnesota and North Dakota. The lesions may be progressive, resulting in a chronic form of this illness, especially in infants and children. The authors describe the pathologic picture of a case of chronic encephalitis in which cysts had replaced both frontal lobes and were separated from one another by glial tissue. The rest of the brain presented widespread parenchymal changes consisting of diffuse and focal areas of demyelination. The vascular involvement varied from collars of perivascular infiltrates to the narrowing and occlusion of the vessels by an endothelial proliferation. Vascular calcification was prominent. In another case a progressive encephalitis had been present since infancy and had shown intermittent activity over a period of many years. At necropsy the lesions were identical to those observed in their first case. Since the Midwest epidemic of equine encephalitis of 1941 the authors have obtained brain tissue from 10 cases; 6 were obtained during the acute phase, 1 during the subacute phase and 3 during the chronic stage of the illness. The development of the main lesions could be traced through the acute, subacute and chronic stages of the disease with fair accuracy. The results suggested that the vascular alterations were primary and indicated that the parenchymatous lesions were principally secondary to the resultant cerebral ischemia. The extreme prominence of pathologic changes in the blood vessels points to a vascular spread of the equine virus.

Journal of Nutrition, Philadelphia

30:1-58 (July) 1945

Nutritional Value of Telang Livers. P. L. Pavcek, E. J. Herbst and C. A. Elvehjem.—p. 1.
Biomicroscopy of Eyes in Evaluation of Nutritional Status: Conjunctival Changes. R. K. Anderson and D. F. Milam.—p. 11.
Id.: Corneal Vascularization. R. K. Anderson and D. F. Milam.—p. 17.
Thiamine, Riboflavin and Nicotinic Acid Retention in Preparation of Overseas Hams and Bacons. H. P. Sarett and V. H. Cheldelin.—p. 25.
*Riboflavin, Niacin and Thiamine Content of Dried Leguminous Seeds. Louise Daniel and L. C. Norris.—p. 31.
Nutritional Studies with the Duck: I. Purified Rations for the Duck. D. M. Hegsted and F. J. Stare.—p. 37.
Studies on Requirements of Monkey for Riboflavin and New Factor Found in Liver. J. M. Cooperman, H. A. Waisman, K. B. McCall and C. A. Elvehjem.—p. 45.

Riboflavin, Niacin and Thiamine Content of Leguminous Seeds.—Daniel and Norris investigated the riboflavin, niacin and thiamine content of dried leguminous seeds. Seventeen varieties of legumes were analyzed. Two different methods were used for determining each vitamin in one sample of every variety of legume. Agreement was found in all cases. The methods used were the fluorometric method for riboflavin, the microbiologic method for niacin and the thiochrome method for thiamine. The results indicate that legumes are an excellent source of thiamine and a good source of niacin and riboflavin. With a few exceptions the greatest amount of all three vitamins is found in the soybean, thus substantiating its high status in the list of foods.

Journal Pharmacology & Exper. Therap., Baltimore

84:93-196 (June) 1945

Experimental and Clinical Studies on Action of High Doses of Hykinone and Other Menadione Derivatives. R. K. Richards.—p. 93.
Studies on General Pharmacology of Dibutoline. R. M. Featherstone and N. G. White.—p. 105.
Effect of Route of Administration on Detoxication of Selenium by Arsenic. A. L. Moxon, C. R. Paynter and A. W. Halverson.—p. 115.
Antibacterial Activity of Penicillin in Experimental Infections of Mice with C. Diphtheriae. N. Ercoli, M. N. Lewis and Lucille J. Moench. —p. 120.
Preparation of Extracts from Oxidized Marine and Other Oils for Reducing Blood Pressure in Experimental and Human Chronic Hypertension. A. Grollman.—p. 128.
Para-Aminohippuric Acid: Its Pharmacodynamic Actions. K. H. Beyer, P. A. Mattis, Elizabeth A. Patch and H. F. Russo.—p. 136.
Toxicologic Manifestations and Pathologic Findings Following Administration of Para-Aminohippuric Acid. P. A. Mattis, K. H. Beyer, S. E. McKinney and Elizabeth A. Patch.—p. 147.
Effects of Anesthesia on Glucose Tolerance in Man. M. Stern, E. M. Papper, E. Bueding and E. A. Rovenstine.—p. 157.
Pharmacologic Action of Benzamidines and Benzamidoximes. G. S. Dawes.—p. 160.
Method for Assay of Atropine Substitutes on Salivary Secretion. E. Bulbring and G. S. Dawes.—p. 177.
Comparison of Pharmacologic Action of Quinidine and Dihydroquinidine. C. C. Scott, R. C. Anderson and K. K. Chen.—p. 184.
Some Effects of Tetraethyl Ammonium on Mammalian Heart. G. H. Acheson and G. K. Moe.—p. 189.

Medical Annals of District of Columbia, Washington

14:287-338 (July) 1945

1944 Poliomyelitis Epidemic: Analysis of Cases Seen at Children's Hospital, Washington, D. C. P. A. McLendon, J. S. Wall, W. S. Anderson, F. M. Hand and R. H. Todd.—p. 287.
Acute Poliomyelitis: Study of Patients Seen in Gallinger Municipal Hospital During 1944. M. J. Howell and H. L. Feffer.—p. 294.
How Is a Depression Diagnosed? I. Rodis.—p. 305.

14:339-392 (Aug.) 1945

Clinical Value of Physical Medicine. G. M. Piersol.—p. 339.
New Aspects of Venereal Disease Control. J. R. Heller Jr.—p. 351.
Fallacy of Use of Intraperitoneal Sulfanilamide in Treatment of Perforative Appendicitis. O. C. Cox and H. J. Forrest.—p. 354.
Public Opinion Will Determine Medicine's Future. J. S. Lawrence. —p. 356.

Michigan State Medical Society Journal, Lansing

44:641-768 (July) 1945

Pathology of Rickettsial Disease. R. A. Moore.—p. 691.
Bronchial Asthma. A. S. Friedlaender.—p. 696.
Need for Cancer Education in Secondary Schools. F. L. Rector.—p. 702.
Penicillin in Ophthalmology. N. Bentley.—p. 706.
Spontaneous Hypoglycemia. H. L. Smith and E. Estes.—p. 711.

44:769-872 (Aug.) 1945

*Kidney Function in Essential Hypertension. E. M. Isberg and P. S. Barker.—p. 817.
Rehabilitation of the Blind: Plan for State of Michigan. J. O. Wetzel. —p. 820.
Ringworm of Scalp Caused by Microsporon Audouini in Monroe County. H. Pinkus.—p. 823.
Acute Appendicitis Occurring in Hernial Sac of 2½ Weeks Old Child. C. B. Loranger.—p. 827.

Kidney Function in Hypertension.—At the University Hospital of Ann Arbor, Mich., clinical estimates of kidney function are based on the composite of three tests: (1) examination of the urine for protein, casts and cells, (2) the urea clearance test and (3) the maximal concentration test. In studies on the renal function of 200 patients with essential hypertension it was found that repeated negative urinalyses are not sufficient evidence to assume that kidney function is normal. In 28 per cent of the patients included in this study renal function was impaired even though the urine showed no abnormalities on routine examination. The combination of normal maximum concentrating ability and normal urinalysis is a sufficient clinical indication of unimpaired renal function. The concentration test is more sensitive than the urea clearance test in detecting early kidney damage in essential hypertension. Thirty-three per cent of the series showed impaired concentrating ability in the presence of normal urea clearance values, while in only 3 per cent was the concentrating ability adequate in the presence of subnormal urea clearance.

New England Journal of Medicine, Boston

233:199-228 (Aug. 16) 1945

*Treatment of Rheumatoid Arthritis with 417 Courses of Gold: Analysis of 259 Cases. A. Cohen, J. Goldman and A. W. Dubbs.—p. 199.
*Active Immunization Against Scarlet Fever. M. M. Glazier.—p. 204.
Spontaneous Rupture of Normal Spleen: Report of Case. H. Duby. —p. 207.
Practical Aspects of Oxalate Metabolism. H. Jeghers and Rosemary Murphy.—p. 208.
Multilocular Cystoma of Pancreas. M. C. Sosman.—p. 216.
Subacute Glomerulonephritis: Hemorrhagic Pulmonary Edema. W. W. Backman.—p. 220.

Gold Compounds in Treatment of Rheumatoid Arthritis.—Cohen and his collaborators administered from 1 to 5 courses of gold compounds in the treatment of 259 patients with rheumatoid arthritis for a total of 417 courses. They found that the administration of 300 mg. of ascorbic acid daily did not reduce untoward reactions in 65 patients receiving 118 courses of gold compounds. Vitamin B complex was not a factor in reducing untoward reactions in 29 patients receiving 66 courses. The improvement was no greater in the groups receiving vitamins as an adjunct than it was in the group of 43 patients receiving 57 courses of gold compounds alone. There was one fatality due to thrombocytopenic purpura. Because of objective improvement in 88 per cent of the various courses of treatment, gold preparations are recommended for the treatment of rheumatoid arthritis, but extreme caution must be exercised. A normal sedimentation rate is not necessarily a contraindication to gold therapy. An increasing sedimentation rate during treatment is not always an indication that clinical improvement is not to be expected. There were untoward reactions in 10.3 per cent of 417 courses of treatment. There were untoward reactions in only 8.9 per cent of 259 patients receiving a single course of gold treatment. In the 96 patients receiving 2 courses the incidence of untoward reactions rose to 15.6 per cent.

Active Immunization Against Scarlet Fever.—Glazier describes a modification of Dick's method which results in fewer general reactions and a higher degree of immunity. He divided 28 patients into three groups during 1933 and 1934 and immunized by means of six, seven and eight injections respectively given at intervals of one, two and three weeks. The most effective method with the lowest incidence of general reactions was that of seven consecutive weekly injections. This method was employed in immunizing 340 children in subsequent years. The injections were given subcutaneously in doses of 650, 2,500, 5,000, 10,000, 25,000, 55,000 and 110,000 units, a total of 208,150 units. If a moderate or severe general reaction occurred, the same dose was repeated the following week. The injections were stopped if an allergic reaction occurred. Immunization was conducted during the spring or fall, preference being given to the late spring. Of 2,357 injections given, only 166 (7 per cent) produced general reactions. The most frequent of these was nausea and vomiting. Immunity, as evidenced by a negative Dick test, was complete in 98.9 per cent of the children, a repeat injection being given to the others. With such a high percentage of immunity, a follow-up Dick test is probably unnecessary. None of the 340 patients developed scarlet fever. The best age to immunize actively for scarlet fever is between 1 and 2 years. The incidence of general reactions was lowest in this group. Since there is a scarlet fever susceptibility of over 90 per cent at this age, an initial Dick test is not necessary. A history of allergic sensitivity is not a contraindication to immunization.

Pennsylvania Medical Journal, Harrisburg

48:1009-1120 (July) 1945

Eczema. E. W. Netherton.—p. 1025.
Therapy for External Ocular Conditions. W. I. Lillie.—p. 1032.
Evaluation of Liver Function Tests. J. F. Monaghan.—p. 1036.

48:1121-1216 (Aug.) 1945

Some Effects of War on Child Health in Pennsylvania. J. A Gilmartin.—p. 1137.
Meningitis in Children. H. T. Price.—p. 1146.
Primary Carcinoma of Female Urethra, with Especial Reference to Lesion Known as Urethral Caruncle. E. Hess.—p. 1150.
Practical X-Ray Pelvimetry. A. E. Colcher and W. Sussman.—p. 1156.
Chronic Suppurative Otitis Media. H. J. Williams.—p. 1159.
Study of Infant Mortality. R. R. MacDonald.—p. 1162.

Public Health Reports, Washington, D. C.

60:885-916 (Aug. 3) 1945

Study of Rodent-Ectoparasite Population of Jacksonville, Fla. A. S. Rumreich and R. S. Wynn.—p. 885.

60:917-944 (Aug. 10) 1945

*Tests of Effectiveness of DDT in Anopheline Control. S. W. Simmons. —p. 917.

60:945-972 (Aug. 17) 1945

Cross Immunity Between Four Strains of Tsutsugamushi Disease (Scrub Typhus). N. H. Topping.—p. 945.

New Reaction Time Apparatus and New Method of Administering Reaction Time Test. R. B. Malmo and L. R. Crisp.—p. 947.

Geographic Distribution of Rocky Mountain Spotted Fever and Nuttall's Cottontail in Western United States. W. L. Jellison.—p. 958.

60:973-1004 (Aug. 24) 1945

Birth Statistics as Index of Interdependence of Counties with Regard to Medical Services. A. Ciocco and M. E. Altenderfer.—p. 973.

Second Report on Control of Anopheles Quadrimaculatus Say in Water Chestnut Areas of Potomac River, 1944. M. M. Price and F. E. Lyman.—p. 985.

Effectiveness of DDT in Anopheline Control.—An average tenant house can be treated with a DDT residual spray at a cost of from $1.50 to $1.75, including labor, materials and overhead but exclusive of the initial outlay for heavy equipment. One treatment a year might be sufficient in the more northern malaria zones of this country, but two treatments will probably be required in the southern zones. Residual sprays do not give as effective a kill in occupied houses, not because of lack of toxicity but because of the large proportion of untreated resting places such as furniture, bedding and exposed wearing apparel. Treatment of household effects is advised where practical. Treated wood surfaces exposed to 14 inches of rainfall over a period of four weeks effected a 25 per cent kill compared with a 75 per cent kill obtained from control panels. Sunlight alone caused a reduction in toxicity of 10 per cent over the same period. When applied as a spray at the rate of 1/10 pound of DDT per acre, essentially 100 per cent larva kills were obtained. Materials for effective larviciding with DDT cost less than one fifth as much as a comparable effective application of fuel oil.

Review of Gastroenterology, New York

12:241-320 (July-Aug.) 1945

Chronic Pancreatitis. J. O. Bustos.—p. 263.

Case of Uremic Diarrhea. F. H. Voss.—p. 279.

Neurofunctional Spasm. B. M. Bernstein and A. J. Brenner.—p. 285.

Biliary Circulation. J. Carrere.—p. 288.

Iodameba Buetschlii: Parasitologic, Clinical and Radiologic Study. J. Raifman.—p. 293.

Southern Medical Journal, Birmingham, Ala.

38:505-564 (Aug.) 1945. **Partial Index**

Sporotrichosis: Report of 4 Clinically Atypical Cases. L. M. Smith. —p. 505.

*Pathology of Bronchial Asthma, with 5 Autopsy Reports. L. Unger. —p. 513.

Is Oral Pollen Therapy Dependable? N. F. Thiberge.—p. 523.

Some Experiences with Mild Foreign Protein in Treatment of Chronic Uveitis. B. Y. Alvis.—p. 527.

Pathogenesis of Atopic Eczema. F. A. Simon.—p. 530.

Management of Migraines. V. J. Derbes, H. T. Engelhardt and T. A. Watters.—p. 533.

Pelvic Tumors. W. T. Pride.—p. 539.

Comparison of Cephalin Flocculation Test with Some Other Tests of Liver Function. W. M. Nicholson, H. S. John and H. M. Taylor. —p. 541.

Future of Periodic Health Examination. H. R. Leavell.—p. 549.

General Practitioner: Opportunity and Responsibility. W. L. Pressly. —p. 552.

Effects of War on Medical School Library. M. A. Murphy.—p. 555.

Pathology of Bronchial Asthma.—Unger reports postmortem observations on 5 cases in which death occurred in uncomplicated asthma. Emphysema was present in all 5, being present even in the 1 year old child who had asthma for only nine months. Plugging of the bronchi was present in the first 4 cases (the lungs in case 5 were not sectioned), and undoubtedly this obstruction is a very important cause of asthma. Morphine was used in cases 3 and 4, and death followed promptly. Morphine is too dangerous a drug to use in bronchial asthma because it prevents expectoration of mucous plugs. It also harms by depressing the cerebral respiratory center, with resultant slowing of respiration in a patient already short of oxygen. Microscopically the usual findings at death during a paroxysm are thickening and hyalinization of the basement membrane of the bronchi, eosinophilic infiltration of the bronchial and peribronchial tissues (the mucous plugs may also contain eosinophils) and excessive mucus in the lumens, varying from thin serous material to thick black obstructing plugs. In the lumens there may also be Charcot-Leyden crystals, Curschmann spirals, fibrin, erythrocytes and desquamated epithelial, round and polymorphonuclear cells. The epithelial lining may be normal or may be partially stripped off. The goblet and mucous cells are either increased or degenerated. The muscular layer is often thickened in chronic cases. The smaller bronchi and the alveoli may be more or less enlarged, depending on the degree of emphysema. As they enlarge, their lining usually thins. The submucosal layer is often widened, and there may be thickening of vessel walls.

Surgery, St. Louis

18:133-266 (Aug.) 1945

Resection of Duodenum and Head of Pancreas for Primary Carcinoma of Head of Pancreas and Ampulla of Vater. W. H. Cole and J. T. Reynolds.—p. 133.

Pancreaticoduodenectomy for Carcinoma of Ampulla and Ampullary Region. T. G. Orr.—p. 144.

Origin and Growth of Adenoma of Islands of Langerhans. L. P. Good. —p. 159.

Islet Cell Tumors of Pancreas. S. R. Maxeiner and H. E. Bundy. —p. 171.

Gastrojejunocolic Fistula. H. K. Ransom.—p. 177.

Carcinoma of Sigmoid and Rectosigmoid Involving Urinary Bladder: Surgical Management in 64 Cases. C. F. Dixon and R. E. Benson. —p. 191.

*Succinylsulfathiazole and Intestinal Suction in Surgery of Large Bowel. F. C. Newton and J. B. Blodgett.—p. 200.

Treatment of Advanced and Inoperable Cancer: Résumé of Current Trends Based on Review of Literature and Analysis of Personal Case Experiences. W. E. Howes and A. L. Shapiro.—p. 207.

Review of 101 Subtotal Gastrectomies for Benign Ulcer. R. L. Sanders. —p. 229.

Dicumarol in Prevention of Postoperative Thrombosis and Pulmonary Embolism. C. Reich, M. D. Yahr and C. Eggers, with technical assistance of Ruth Lipkin.—p. 238.

Retrograde Arteriography in Study of Abdominal Aorta and Iliac Arteries. P. L. Farinas.—p. 244.

Body Fluid and Plasma Protein Changes Following Single Nonfatal Hemorrhage in Hypoproteinemic Dogs. M. P. Pride, E. Muntwyler, Grace E. Griffin, F. R. Mautz and Lois Griffith.—p. 250.

Interscapulothoracic Disarticulation of Arm. J. K. Berman.—p. 256.

Succinylsulfathiazole and Intestinal Suction in Surgery of Large Bowel.—Newton and Blodgett observed the use of the Miller-Abbott tube and of succinylsulfathiazole in 114 cases of large bowel resection. The general preoperative and postoperative care was the same in all except that in the test group (36 cases) preoperative succinylsulfathiazole and preoperative and postoperative intestinal suction were used. In the control group (78 cases) primary colostomy without chemotherapy was the routine in resections with restoration of continuity. The Mikulicz type of resection was not required in any cases of the test group. The following data are of statistical significance in the comparison of the two groups: 1. The gross incidence of complications was reduced from 58 to 25 per cent. 2. The gross mortality was reduced from 19 to 3 per cent. 3. When similar operative procedures (resections and anastomoses) are compared, it is found that the incidence of postoperative infection is reduced from 43 to 6 per cent and the mortality is reduced from 22 to 3 per cent.

War Medicine, Chicago

8:1-72 (July) 1945

Diseases and Defects in Aircrew Trainees. J. E. Leach.—p. 1.

Electroencephalogram in Syncopal Reactions: Collapse at 18,000 Feet Simulated Altitude in Low Pressure Chamber. O. Sugar.—p. 9.

Hysteria as Device to Prolong Hospitalization and Evade Military Duty. M. Levin.—p. 16.

Optical Service Units of Navy. J. P. Cowen.—p. 18.

Military Value of Standard Test of Heart Function with Electrocardiograms in Staging Area: Preliminary Report. A. A. Goldbloom and A. A. Dumanis.—p. 21.

Principles and Problems of Maintenance of Fighter-Bomber Pilots. E. S. C. Ford.—p. 26.

Psychiatric Study of Blast Injuries of Ear. L. Linn and M. H. Stein. —p. 32.

Penicillin Sodium in Treatment of Sulfonamide Resistant Gonorrhea in a Station Hospital. J. J. Kristal.—p. 34.

Camptocormia: Functional Condition of Back in Neurotic Soldiers. S. A. Sandler.—p. 36.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Radiology, London

18:199-232 (July) 1945

*Short Esophagus (Thoracic Stomach) and Its Association with Peptic Ulceration and Cancer. D. W. Smithers.—p. 199.
Results of Treatment in Series of Cases of Carcinoma of the Cervix. B. M. W. Dobbie.—p. 210.
Quantitative Analysis of Effect of Gamma Radiation on Malignant Cells in Vitro and in Vivo. I. Lasnitzki.—p. 214.
War Wounds of Head and Neck. D. B. McGrigor and E. Samuel. —p. 221.
Radiographic Investigation of Diaphragmatic Movemenets. A. A. Vickers. —p. 229.
Diverticulum of Stomach Found to Enter Left Inguinal Hernial Sac. J. B. Hartley.—p. 231.

Short Esophagus, Peptic Ulceration and Cancer.—Smithers advances a theory suggesting that both congenital shortening of the esophagus and acquired shortening due to cicatrization following ulceration are comparatively rare, and that the majority of the cases diagnosed as short esophagus radiologically are primarily cases of hiatus insufficiency associated with spasm of the longitudinal muscle fibers resulting from irritation due to flow of gastric juice into the esophagus. A lax hiatus may result either from a developmental deficiency due to delayed descent of the stomach or to a loss of elasticity of the tissues in later life. In most cases of "congenital short esophagus" the condition is not congenital and the esophagus is only shortened by spasmodic contraction. Two cases of short esophagus and cancer are added to those previously reported.

British Medical Journal, London

2:1-36 (July 7) 1945

*Sulfonamide Rashes: Analysis of 500 Cases Seen in North Africa and Italy. G. A. G. Peterkin.—p. 1.
Prevention of Sea Sickness in Assault Craft: Report of Experiments Under Tropical Conditions. I. G. W. Hill and A. I. Guest.—p. 6.
Human Creeping Myiasis. Report of Case. R. G. Turner.—p. 11.
Abacterial Pyuria. H. Donovan.—p. 12.
Notes on Adder Bite (England and Wales) C. W. Wales.—p. 13.

2:37-74 (July 14) 1945

Some New Developments in Morphophysiology of Cerebral Cortex. S. Sarkisov.—p. 37.
Dermatitis from Wearing Army Spectacles. W. O. G. Taylor and A. G. Fergusson, with special report by W. R. G. Atkins.—p. 40.
*Cerebral Fat Embolism After Electrical Convulsion Therapy. A. Meyer and D. Teare.—p. 42.
Pellagra in Morphine Addict. C. Comerford and B. H. Kirman. —p. 44.
*Malaria Epidemics at Exceptionally High Altitudes in Kenya. P. C. C. Garnham.—p. 45.

2:75-108 (July 21) 1945

Effects of High Altitude on Man. B. H. C. Matthews.—p. 75.
Irreparable Vesicovaginal Fistula in Iraq: Treatment by Ureterocolostomy. D. M. Douglas.—p. 78.
Otitis Externa. J. F. Birrell.—p. 80.
Penicillin Grown from Nutrient Medium Prepared from Potato Extract. J. O. Gavronsky.—p. 82.
Hypersensitivity to Transfused Blood. Sheila Callender, R. R. Race and Z. V. Paykoc.—p. 83.
Case of Nocturnal Hemoglobinuria. J. A. Milne.—p. 84.

Sulfonamide Rashes in North Africa and Italy.—Peterkin examined 650 cases of sulfonamide sensitization while in service in North Africa and Italy. Of the various drugs employed, sulfonamide seemed the most apt to cause reactions, especially if used in the form of powder. The whole group of sulfonamides seemed less likely to cause reactions if applied in the form of a thick paste or a water miscible cream. The reactions were due to the treatment of many different conditions from major wounds and burns to slight grazes, impetigo and chancroid. Only three of the sixteen types described by the author are liable to cause a grave or prolonged illness, i. e. the pemphigoid, the sulfonamide light eruption and the sulfonamide contact dermatitis. Sulfonamide light dermatitis accounted for 72.2 per cent and contact dermatitis and its complications for 17.2 per cent, i. e. 90 per cent of the total. Most cases of reaction were due to the use of sulfanilamide in powder form; the safest drugs appeared to be sulfadiazine and sulfaguanidine. Acriflavine can reactivate a sulfonamide light or contact dermatitis just as may cocaine. No race is exempt from this sensitization, skin color and texture making little or no difference. Sulfonamide reactions are uncommon in United States troops compared with British. This is due to the fact that the U. S. Medical Corps uses sulfonamides chiefly in the form of a 5 per cent sulfadiazine in a water miscible cream. The local application of sulfonamides is contraindicated in skin diseases, though there is little risk if the drugs are used with certain precautions. Intramuscular penicillin appears to be the treatment of choice in two types, the pemphigoid and the severe light dermatitis.

Cerebral Fat Embolism After Convulsion Therapy.—Meyer and Teare's patient, a man aged 53, had sustained gunshot wounds at the back of the right knee during the war of 1914-1918 and now complained of severe pain in this knee, with inability to straighten the leg. Under sodium amytal and suggestion therapy the patient was able to walk about freely without pain. Prolonged narcosis was given from April 30 to May 15, but no lasting improvement resulted. Psychotherapy and occupational therapy were continued until December. An electrical convulsion was given, from which the patient made a fair recovery. He died twelve hours later. The diagnosis of cerebral fat embolism was established by the microscopic evidence and was clinically suggested by the so-called free interval, although it was not entirely free of symptoms and there is some doubt whether it ended with the first collapse about twenty minutes after the convulsion or with the second final collapse about two hours later. The characteristic petechial hemorrhages of the skin were absent; in the brain only a few were encountered. Cerebral fat embolism has not been described after electrical convulsion treatment. Neither a fracture nor any of the other recognized causes of fat embolism were found post mortem.

2:109-144 (July 28) 1945

Scrub Typhus as War Disease. J. W. D. Megaw.—p. 109.
Scrub Typhus: Clinical Study. M. C. Menon and C. Ibbotson.—p. 112.
Effects of Mechanical Stresses on Man. B. H. C. Matthews.—p. 114.
*Peripheral Arterial Embolectomy. P. Hopkins.—p. 117.
High Color Index Anemia Due to Vitamin C Deficiency. B. Gottlieb. —p. 119.
Tropical Dietary. W. E. McCulloch.—p. 127.

Peripheral Arterial Embolectomy.—The leading symptom in the diagnosis of peripheral embolism is that something sudden happens in a limb. It may feel "cold and numb," "as heavy as lead," "as though it was gripped in a vice." Together with any of these there is often loss of voluntary movement. The limb is cold from 1 to 2 inches below the site of lodgment of the embolus. Pallor or cyanosis may be evident, and there may be mottling or lividity below a line of demarcation. Arterial pulsation is absent distally, while pressure over the site of the embolus causes pain. As soon as peripheral embolism is diagnosed the limb should be lowered not raised and surrounded by ice bags, not hot water bottles, as the metabolism of the anoxic tissues must be reduced. Ideally, operative removal of the embolus should be carried out within four to six hours, but delay over this time need not preclude the possibility of recovery after embolectomy. Hopkins performed successful popliteal and femoral embolectomies on a woman aged 43 thirty-nine hours after lodgment of the emboli. The convalescence was uneventful.

Journal of Endocrinology, London

4:219-370 (July) 1945

Preparation and Biologic Effects of Iodinated Proteins: 1. Introduction. J. Barcroft.—p. 219.
Id.: 2. Preparation and Properties of Physiologically Active Iodinated Proteins. Rosalind P. Rivers and S. S. Randall.—p. 221.
Id.: 3. Effect on Iodinated Protein Feeding on Lactating Cow. K. L. Blaxter.—p. 237.
Id.: 5. Effect on Basal Metabolism of Milk from Cows Fed with Iodinated Protein. J. D. Robertson.—p. 300.
Id.: 6. Further Experiments on Restoration and Maintenance of Growth After Thyroidectomy. I. W. Rowlands.—p. 305.
Id.: 7. Use of Rana Temporaria Tadpoles for Assay of Thyroidal Activity. R. Deanesly, J. Emmett and A. S. Parkes.—p. 312.
Id.: 8. Use of Xenopus Tadpoles for Assay of Thyroidal Activity. R. Deanesly and A. S. Parkes.—p. 324.
Id.: 9. Biologic Activity of Iodinated Proteins. R. Deanesly and A. S. Parkes.—p. 356.

Journal of Laryngology and Otology, London

59:437-486 (Dec.) 1944

Survey of Aural Health of Aircrew Candidates for Service with Royal Air Force. E. D. D. Dickson and G. H. Bateman.—p. 437.
Blast Injuries of Ear. D. H. Craig.—p. 443.

Lancet, London

2:33-64 (July 14) 1945

Familial Crises in Congenital Hemolytic Disease J. L. Horne, H. Lederer, H. J. R. Kirkpatrick and D. G. Leys.—p. 33.
Purulent Meningitis: Use of Hypertonic Solutions in Treatment. E. S. Shalom.—p. 36.
Treatment of Tropical Ulcer. P. N. Walker-Taylor.—p. 40.
Clinical Trial of UFI: New Compound of Urea and Iodine. C. P. G. Wakeley.—p. 42.
Wounds Inflicted by Antipersonnel Mines. C. D. P. Jones.—p. 44.
Pleuropneumonia-like Organisms in Human Vagina. Emmy Klieneberger-Nobel.—p. 46.

2:65-96 (July 21) 1945

Diagnosis of Cancer in National Medical Service. G. F. Stebbing.—p. 65.
*Chronic Amebic Dysentery: New Approach to Treatment. W. H. Hargreaves.—p. 68.
Rupture of Spleen in Infectious Mononucleosis. J. S. Davis, W. MacFee, M. Wright and R. Allyn.—p. 72.
*Curare as Aid to Anesthetist. H. R. Griffith.—p. 74.
Curare in Anesthesia. F. B. Mallinson.—p. 75.
Sympathetic Block in Vascular Injuries: Review. A. H. M. Siddons.—p. 77.

Chronic Amebic Dysentery.—A man who had been invalided from India, where he had been in the hospital almost continuously for a year because of chronic amebic dysentery and whose condition deteriorated in spite of two courses of standard treatment in another hospital at home, was cachectic and pyrexial, with persistent abdominal pain and some twenty foul stools daily containing blood and many amebas. In spite of six daily injections of 1 grain (0.06 Gm.) of emetine followed by a twenty-one day blunderbuss course, his condition became worse and he appeared moribund. At this state Hargreaves administered an initial dose of 100,000 units of penicillin intramuscularly followed by 33,000 units every three hours up to a total of just over 1 million units. The result was dramatic. Twenty-four hours after the treatment was begun he was free from pain and was apyrexial. After two days he passed a formed stool for the first time in two years. He rapidly put on weight, but amebas were still present in the stools and after two weeks there was a recurrence of diarrhea with blood. He was given a second course of penicillin, this time 2¼ million units. Again his stools became normally formed and sigmoidoscopy revealed that the bowel was healthy. After a month's convalescence he was given another twenty-one day course of blunderbuss antiamebic treatment, as amebas were still present in the stools. Four months later six daily examinations of the stools were negative. To combat some of the organisms which are not sensitive to penicillin, the author also gives a course of succinylsulfathiazole concurrently by mouth—total 80 Gm. The author has treated 47 cases of severe refractory amebic dysentery on these lines and has rarely found more than one course of emetine bismuth iodide to be necessary afterward to cure the amebic infection. Success with penicillin and succinylsulfathiazole in chronic amebiasis led to the application of this treatment in chronic ulcerative colitis. It has been successful in several such cases.

Curare as Aid to Anesthetist.—Griffith's practice has been to administer curare only when there is need to obtain increased muscular relaxation. This may be done at any time during the operation and should be in adequate dosage (60 to 100 mg. for an adult under cyclopropane), which may be repeated but is by no means necessary in every abdominal case. A recent survey at the author's hospital in Montreal shows that, although curare is used on the slightest provocation and has been used more than five hundred times, it is still administered in only 38 per cent of abdominal operations. Curare should not be the excuse for a poor anesthetic sloppily administered. He has used cyclopropane for many years to the almost complete exclusion of ether. For this reason most of his work with curare has been on patients under cyclopropane anesthesia. The two drugs seem to make an ideal combination. Curare may also be used in ether anesthesia or when ether is combined with cyclopropane, ethylene or nitrous oxide; but under these circumstances the dose of curare should be greatly reduced—to an average of 20 to 40 mg. for an adult. Perhaps the most surprising outcome of the investigation on curare is the absence of evidence of toxicity in a drug with such a fabulous reputation as a poison. However, earlier physiologists worked with a comparatively crude curare which probably contained variable quantities of other adulterating substances. The new purified and pharmacologically standardized product is rapidly broken down in the human body and is completely eliminated. When improperly used, curare is still a poison capable of producing death by respiratory paralysis. Griffith feels that curare will make it possible to use the nontoxic and controllable gas anesthetic agents, particularly cyclopropane and ethylene, in a wider variety of major operations, that it will reduce the use of spinal anesthesia for upper abdominal surgery with its attendant hazards and that it will afford more efficient anesthesia with low concentrations of ether when that agent is chosen.

Medical Journal of Australia, Sydney

1:577-600 (June 9) 1945

Rehabilitation as Seen in Royal Australian Air Force: Some Therapeutic and Occupational Aspects. G. Andrew.—p. 577.
Allergen of House Dust. C. Sutherland.—p. 583.

1:601-624 (June 16) 1945

*Rh Factor and Blood Group Frequencies in Japanese. J. J. Graydon and R. T. Simmons in collaboration with G. A. M. Heydon and A. J. Bearup.—p. 601.
Adelaide Local Board of Health Survey of School Children by Mantoux and Patch Test. H. K. Fry.—p. 604.
Gestation Period. D. H. Sutton.—p. 611.

Rh Factor and Blood Group Frequencies in Japanese.—Graydon and his collaborators collected blood group data in relation to anthropology for different races in the Pacific. They report observations on blood samples obtained from 400 adult male Japanese. The samples were tested for blood groups and subgroups, M, N types and the Rh factor. It was found that 123 (30.75 per cent) belonged to group O, 149 (37.25 per cent) to group A, 88 (22 per cent) to group B and 40 (10 per cent) to group AB. Only 2 (1.1 per cent) of 189 samples of blood of groups A and AB were of subgroup A_2. The Japanese in this respect are similar to the Australian aborigines, Hawaiians, American Indians, Eskimos, Chinese and Indonesians in that the factor A_2 is absent or extremely rare. One hundred and fourteen (28.5 per cent) of the samples were of type M, 204 (51 per cent) were of type MN and 82 (20.5 per cent) were of type N. Three hundred and ninety-nine (99.75 per cent) of the samples were Rh positive; only 1 sample was found to be Rh negative. In respect to the Rh factor the Japanese again give a result similar to the Australian aborigines, American Indians, Chinese and Indonesians, the blood of all of which races is approximately 100 per cent Rh positive. In the white races tested only 85 per cent approximately have Rh positive blood.

1:625-648 (June 23) 1945

Pathologic Lesions in 5,000 Australian Autopsies. J. B. Cleland.—p. 625.
Survey of Scrub Typhus (K Typhus) in New Guinea. J. de Vidas.—p. 631.
*Prophylactic Use of Sulfanilamide in Rheumatic Fever: Preliminary Report. S. G. Anderson.—p. 635.
Injuries Produced by Plants in Tropical Queensland. H. Flecker.—p. 636.

Prophylactic Use of Sulfanilamide in Rheumatic Fever.—Anderson reports that in August 1944 he established at the Children's Hospital in Melbourne, as a branch of the rheumatic heart clinic, a section which has been concerned with the distribution of sulfanilamide and the supervision of patients suffering from rheumatic fever who were taking the drug. The patients who were selected for prophylactic treatment with sulfanilamide had all suffered an attack of rheumatic fever one or more times during the preceding five years, usually during the previous two years. Such patients varied in age from 3 to 14 years. Of 104 children who received sulfanilamide prophylactically and who were observed for six months, 1 child had a doubtful recurrence of the disease. An average of 470 children not taking the drug formed a control series during the same

time, of whom 30 definitely suffered from recurrent rheumatic fever, and 3 possibly so; this is equivalent to a recurrence rate of 13.5 to 15 per cent per year. The toxic effects of the drug were minimal.

Presse Médicale, Paris

53:197-216 (April 21) 1945

Paradoxical Difference Existing Between Obliterating Endoaneurysmorraphy and Resection of Sac in Aneurysms. R. Leriche.—p. 197.
Osteochondritis Dissecans with Abnormal Evolution: Resorption of Detached Osteocartilaginous Fragment. A. Mouchet.—p. 198.
Parotid Adenitis of Dental Origin. M. Dechaume.—p. 199.
*Electrophysiologic Studies on Metrazol Epilepsy: Convulsive Comatherapy. P. Chauchard, Henriette Mazoué and R. Lecoq.—p. 201.

Metrazol Epilepsy.—Chauchard and his associates found, in experiments on rabbits, guinea pigs and rats, that metrazol injections result in an inverse modification of the excitation time on the cerebral cortex (prolongation) and the peripheral nerves (shortening). The effects of metrazol on the nervous centers are complex. The investigations conducted by the authors confirm earlier observations which attribute to the base of the brain an important part of the metrazol attack, but they go further and bring proof that the cerebral cortex, far from being stimulated by metrazol, is depressed by it. This is in accord with the fact that in man the attack is accompanied by loss of consciousness, that is, by suppression of the cortical function. In the encephalogram, under the effect of metrazol, the augmentation of voltage is on a par with a retardation of the waves which speak in favor of a depression. The authors show that the complex action of metrazol, depressing the superior centers and stimulating the inferior ones, must not be confounded with that of ordinary stimulants such as strychnine, which excites the brain and the lower centers simultaneously. Great similarity exists between metrazol epilepsy, insulin coma and electric shock, which are used in psychiatry.

Anais Brasileiros de Ginecologia, Rio de Janeiro

10:129-196 (Feb.) 1945. **Partial Index**

*Perforating Endometriosis of Posterior Fornix. N. Arenas and O. Blanchard.—p. 129.
Testosterone Propionate in Pain from Cancer of Uterus. J. Nemirovsky.—p. 136.

Perforating Endometriosis of Posterior Fornix.—According to Arenas and Blanchard, endometriosis of the posterior fornix may be caused by any of the following conditions: (1) endocervicitis, (2) reflux of menstrual blood, (3) rupture of an ovarian cyst, (4) implantation of decidual cells after obstetric trauma and (5) proliferation of aberrant endometrial tissue. The condition is observed, as a rule, in women between 30 and 40 years of age. The symptoms are more or less acute. There is a hypermenorrhea, intermenstrual or premenstrual bleeding, rectal pain and small rectal hemorrhages. Small, dark blue cysts and bleeding granulations partially covered by the vaginal folds are seen during the gynecologic examination. The appearance of the vaginal lesion is that of a scar. There is an early infiltration of the rectovaginal septum and later stricture of the rectum. The diagnosis is arrived at by a biopsy. The therapy consists in irradiation of the ovaries or a panhysterectomy. In the case reported by the authors, endometriosis of the posterior fornix perforated the cul-de-sac of Douglas and infiltrated the rectovaginal septum. Treatment consisted in a bilateral adnexectomy.

Brasil-Medico, Rio de Janeiro

59:89-106 (March 17, 24 and 31) 1945. **Partial Index**

*Penicillin in Tertiary Yaws. F. Nery Guimarães.—p. 89.
Cancer in Children. B. Ruy Prates.—p. 98.

Penicillin in Yaws.—Nery Guimarães reports good results with penicillin treatment of 6 patients with tertiary yaws (ulcerated gumma, periostitis, osteitis, osteoporosis and rhinopharyngitis mutilans). The Wassermann reaction was strongly positive in all. The drug was administered intramuscularly in doses of 400 Oxford units each, which was given every six hours three times a day up to a total dose which varied between 50,000 and 600,000 Oxford units during a period which varied between three weeks and seven months. Clinical recovery was obtained in all cases. The Wassermann test repeatedly performed became negative and remained so. In cases of bone lesions, pain on pressure of the involved bone area disappeared, but the structure of the bone, as seen under the x-rays, was not entirely reconstituted. The results of penicillin in cases of bone lesions were as good as those in which arsphenamine therapy was employed. The patients are still under observation. This is a preliminary report.

Prensa Médica Argentina, Buenos Aires

32:1093-1123 (June 15) 1945. **Partial Index**

*Bronchial Carcinoma with Early Multiple Cutaneous Metastasis. F. Morán Miranda and C. G. Gonnella.—p. 1099.

Bronchial Carcinoma.—According to Morán Miranda and Gonnella, early cutaneous metastasis of primary bronchial carcinoma is rare. The metastatic nodules are multiple. They appear simultaneously with the respiratory symptoms and resemble sebaceous cysts, fibromas or gummas. Later they may become ulcerated and simulate anthrax. The diagnosis is made by biopsy. The subject of the authors' report was a man aged 37 who one month after recovery from pneumonia developed a chronic bronchitis, changes in the voice and multiple cutaneous nodules over the chest wall. Rapid emaciation, new cutaneous nodules and softening of the early ones followed. The sputum was purulent, hemorrhagic and negative for tubercle bacilli. The patient had no syphilis. Diagnosis of bronchial cancer was confirmed by bronchoscopy, the appearance of left recurrent laryngeal paralysis and of left phrenic paralysis, biopsy of the metastatic nodules and the rapid, fatal course of the disease. Symptoms of peritoneal and intra-abdominal metastasis appeared three weeks before death. The diagnosis was confirmed by a necropsy, which showed generalized cancer of the left lung and mediastinum and a large number of cutaneous and visceral metastases.

Acta Orthopaedica Scandinavica, Copenhagen

15:59-248 (Nos. 2 to 4) 1944

Partition of Sesamoid Bones of Lower Extremities. H. Sundt.—p. 59.
Experimental Investigations into Postfetal Osteogenesis. A. Bertelsen.—p. 139.
Hereditary Multiple Epiphysial Disturbances (Chondro-Osteo-Dystrophia Brailsford). I. Hermodsson.—p. 182.
*Habitual Dislocation of Shoulder: Study on Nature and Treatment of the Disease, Including Remarks on Traumatic Dislocation. E. Thomasen.—p. 206.

Habitual Dislocation of Shoulder.—Thomasen says that the shoulder and the jaw have a lax joint capsule and are the joints most frequently subject to dislocation. Shoulder dislocations constitute about 50 per cent of all dislocations. It has been stated that 5 per cent of all primary dislocations are likely to become habitual. In about 12 per cent of the cases habitual dislocation is bilateral, but mostly it occurs in the right shoulder (about 66 per cent) and like traumatic dislocation it is most frequent in males. Habitual shoulder dislocation is caused by congenital predisposition but may be provoked by a trauma. The first dislocation in the habitual cases occurs relatively early in life. Statistics indicate that in nearly half of the cases it occurs before the age of 20 and in 90 per cent before the age of 30. In 75 per cent of the cases the recurrences appear before the end of the first year. Gradually the recurrences become more frequent, requiring an ever slighter cause. In between the recurrences there may be subluxations accompanied by pain. The disease may be treated without operation with a bandage holding the arm tied to the body. About seventy operative methods have been reported. The three main types in use are suspension operations, operations on the coracoid process and the Hybbinette-Eden operation. Capsular plication is no longer applied as an independent operation but as a supplement to the two types last mentioned. Thomasen reviews these operative methods on the basis of published reports and his own material of 21 patients treated at the Copenhagen Orthopedic Hospital and the Bispebjerg Hospital and concludes that the Hybbinette-Eden is the most effective method. He favors the Magnus modification of the Hybbinette-Eden method, in which a bone graft is inserted outside the synovial membrane.

Book Notices

Textbook of Abnormal Psychology. By Roy M. Dorcus, Associate Professor of Psychology, University of California at Los Angeles, and G. Wilson Shaffer, Dean of the College of Arts and Sciences, Johns Hopkins University, Baltimore. Third edition. Cloth. Price, $4. Pp. 547, with 5 illustrations. Baltimore: Williams & Wilkins, 1945.

This is an improved edition of a remarkably good textbook on abnormal psychology. Such books are usually written for college (nonmedical) students, and most of them, though accurate, are insufficiently detailed to give the undergraduate college student a good idea of the behavior of persons who are suffering from a mental disease or who are having abnormal mental experiences. One must perforce think of academic psychology, including the psychology of the abnormal, as bearing the same relationship to psychiatry that college physiology and hygiene bear to general medicine. A knowledge of these basic sciences is useful to the layman in enabling him to comprehend what is going on when mental or physical ailments occur in persons whose health has some bearing on his own adjustment to life. In view of this, basic books on either abnormal psychology or hygiene must be sufficiently complete to serve their purpose yet must stop short of giving the impression to the student that he can practice psychiatry or medicine of even the simplest sort. In the case of abnormal psychology, the material to be discussed is bound to overlap that included in textbooks on psychiatry, yet Dorcus and Shaffer in the present textbook have drawn a very clearcut line. While the researches of the medical profession have by no means been ignored, much space is devoted to experimental studies and investigation from the psychologic laboratory and clinic. There is a discussion of basic nonmedical psychology, but a large part of the book is devoted to the description of mental diseases of various sorts and to a general discussion of their treatment. The chapters on treatment are extremely good and emphasize the fact that no psychologist should attempt to give treatment without the supervision of a psychiatrist. There is an extensive bibliography of over eight hundred items which is coordinated with the text. There are some case histories cited as well as a number of worthwhile footnotes. Dorcus and Shaffer have produced an informative, accurate and sensible work, yet it does not transgress fields where the medical man should be the practitioner. It can be highly recommended to graduate students of psychology and to premedical and medical students, and even psychiatrists might find in it items of considerable interest to round out their knowledge of the human mind.

The Story of a Country Medical College: A History of the Clinical School of Medicine and the Vermont Medical College, Woodstock, Vermont, 1827-1856. By Frederick Clayton Waite. Cloth. Price, $4.50. Pp. 213, with illustrations. Montpelier, Vermont: Vermont Historical Society, 1945.

This interesting and scholarly account of a medical school operating in the small community of Woodstock, Vermont (1827-1856), was written in the belief that "history is more than a mere recital of annals." The book tells the story, not only of a medical school, but of the medical education of the times, an end too seldom achieved in histories of medical schools. In the early nineteenth century about one third of the schools were "country schools," and about one third of the practitioners were graduates of these institutions. At the time, medical education in this country was in its childhood, a few years past the infancy of medical preparation limited to apprentice training. A three year "curriculum" was usual, in which the student attended two sessions (totaling twenty-four weeks) of medical lectures and devoted the remainder of the three calendar years to work with a physician preceptor. There were no graded courses, so that the second didactic session was a repetition of the first, unless the student chose to attend another school, which was common. Laboratory work, hospital experience and full time instructors were virtually nonexistent. Salaries consisted of a division of the balance remaining in the treasury at the close of the year. Dissection was elective, and cadavers were provided by "resurrectionists." The personalities involved, the operation of the school and its place in medical history are set forth in a manner to hold the attention of any one interested in medical education and medical history.

Rypins' Medical Licensure Examinations: Topical Summaries, Questions, and Answers. Fifth edition, revised under the editorial direction of Walter L. Bierring, M.D., F.A.C.P., M.R.C.P., Secretary, Federation of State Medical Boards of the United States, Des Moines, Iowa. With the Collaboration of a Review Panel. Cloth. Price, $6. Pp. 546. Philadelphia, London & Montreal: J. B. Lippincott Company, 1945.

This book, which is now in its fifth edition, has apparently two major objectives in view. The first is to help dispel the fear with which the average medical graduate approaches the ordeal of the examination for medical licensure, while the second is to aid the candidate in his selection, organization and coordination of medical knowledge already acquired. To carry out this purpose the editorial panel has selected such material as has generally been utilized by the various examining boards. This includes the major subjects of anatomy, physiology, chemistry, bacteriology, pathology, hygiene and preventive medicine, obstetrics and gynecology, medicine, surgery and the addition of a new section on pharmacology. The descriptive material is presented in concise summary form followed at the end of each chapter by typical questions based on a careful analysis of the licensing examinations throughout the United States.

The question and answer form has been abandoned, although the title would seem to imply that this method of presentation is still in use.

The book recognizes that the testing of academic knowledge can best be left in the hands of the medical schools. Accordingly it advocates that licensing boards should limit themselves mainly to the examination of the candidate's ability to apply medical knowledge in clinical practice. This policy does not yet predominate, however, for a great many of the questions used are still academic in nature, requiring little more than the routine memorization of factual data.

There is an excellent discussion on the philosophy of examinations and their importance as an integral part of the program of education and as a measure of knowledge and achievement. Medical students and applicants for licensure will find this volume a convenient, well organized source of reference and a stimulus to further study and review.

Annals of the University of Otago Medical School 1875-1939. By D. W. Carmalt Jones. Cloth. Pp. 286, with 12 illustrations. Wellington, New Zealand: A. H. and A. W. Reed. 1945.

The title "annals" is appropriately selected for this book since it is essentially a compilation of material which might be assembled primarily from annual reports and university catalogues. The author frankly realizes that "the book would have very small appeal outside New Zealand." The University of Otago Medical School is named for the province in which it is located on South Island, one of the two major islands constituting New Zealand. There is a brief account of the country itself and of early medicine on the islands before the establishment of the school in 1875. Most of the book deals with the courageous struggle for faculty, funds and facilities which has characterized the final consummation of an acceptable program of medical education of many medical schools. This task was doubly difficult at Otago, where "it must have been quite exceptional half a century ago for an embryo school, ten thousand miles from England, to secure men of . . . [high] . . . professional standing . . ." for the faculty. Unfortunately, there is little mention of the relationship of medical education to the form of practice in this country, perhaps because the "annals" terminate with the year 1939. It was in 1940 that the Social Security Act was passed, introducing "great changes in the medical practice in the country."

The Outlook for Women in Occupations in the Medical Services: Women Physicians. United States Department of Labor, Women's Bureau, Bulletin 203, Number 7. Paper. Price, 10 cents. Pp. 28, with illustrations. Washington, D. C.: Supt. of Doc., Government Printing Office, 1945.

This pamphlet is an objective compilation of information on the opportunities for women in medicine. The source materials are authoritative. The booklet will be useful to women considering studying medicine and desiring to know the problems they will encounter in so doing.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

POSTURAL TREATMENT OF PULMONARY TUBERCULOSIS

To the Editor:—What is the present opinion on the use of postural treatment in pulmonary tuberculosis? Nathan Sedofsky, Major, M. C., A. U. S.

ANSWER.—Postural rest is not employed as much as formerly, because other procedures have replaced it in many instances. Twenty-five years ago it was generally believed that every patient should have a period of bed rest to give nature an opportunity to control the disease before any other procedure was indicated. Now in large numbers of instances including those of minimal, progressive disease, artificial pneumothorax is instituted almost as soon as the diagnosis is made and the lesion is proved to be active. In many of the unilateral moderately and far advanced cases, extrapleural thoracoplasty is instituted with considerable promptness, and in some cases lobectomy and pneumonectomy are performed without much preliminary treatment.

Some physicians still prefer to prescribe a period of bed rest in all minimal and moderately advanced cases before considering any form of collapse therapy. During this period postural treatment may be used with considerable advantage when the disease is unilateral. In a good many cases in which collapse therapy is indicated and recommended, adhesions have so obliterated the pleural space that satisfactory artificial pneumothorax cannot be instituted. Again, one encounters patients who refuse all forms of collapse therapy. In all such cases postural treatment may be helpful. Even in cases of bilateral pulmonary tuberculosis when one side is not extensively involved and collapse therapy is not indicated, cannot be done or is refused, postural treatment may assist in bringing about sufficient improvement in the more diseased lung so that collapse therapy is indicated or is accepted by the patient.

When postural treatment is instituted, the patient is instructed to lie on the side of the diseased lung as long as possible each day. The time is increased as fast as the position can be tolerated. A small, hard pillow usually is placed beneath the ribs. The lung on the side on which the patient lies undergoes less movement than the opposite lung during respiration, and its aeration is greatly decreased. The heart and other mediastinal structures become displaced toward the recumbent side, the ribs are brought closer together, and when the foot of the bed is slightly elevated the abdominal viscera push the diaphragm upward on this side. All of this results in diminution of the lung volume. The decreased activity of the lung brought about in this manner often promptly results in definite decrease of symptoms, and in due time there is other evidence of improvement of the lung condition.

Postural treatment is valuable also in controlling hemorrhage. Moreover, it prevents blood from being aspirated into the opposite bronchial tree, where it may spread the disease or cause pneumonia. In like manner, even in the absence of hemorrhage, bacilli containing materials from the lesion are prevented from being aspirated into the opposite lung. Always, when artificial pneumothorax is being instituted or any other form of collapse therapy is administered, the patient should lie as much as possible on the involved side to prevent spread of the organisms to the opposite lung.

CANCER IN VETERANS

To the Editor:—Is there any indication in the statistics of the Veterans Administration that veterans are seeking treatment for cancer earlier than formerly in response to efforts to impress them with the vital importance of treatment in the first stages? M.D., New York.

ANSWER.—The most recent report on the cancer service of the Veterans Administration appears to be that on the admissions to the tumor clinic of Hines Veterans Hospital in 1943 (Schrek, R., and Allaben, G. R.: Statistical Analysis of 2,407 Admissions to the Tumor Clinic of Veterans Hospital, Hines, Ill., during 1943, *Cancer Research* **5**:539 [Sept.] 1945). This hospital has 1,800 beds, of which approximately 500 are allocated to the tumor clinic. Of 2,407 patients admitted to the clinic during 1943, 2,222 (including multiple admissions of the same patient) were cancer patients. These admissions are subjected to a careful statistical analysis with respect to geographic, racial and age distributions, deaths and treatment. The table giving types of treatment and percentages of deaths of patients with various types of tumor does not give information about the duration and extent of the disease in the treated patients or about their history before admission. The report does not present any facts on which to base an affirmative answer to the question, and it does not convey the impression that the Veterans Administration, at least up to and including 1943, has been supporting any formal educational campaign to promote early diagnosis and prompt treatment of cancer in its beneficiaries.

THE LIVER IN DIABETES

To the Editor:—In the June 4, 1945 issue of *Newsweek* there was a short article on diabetes. The following medical research men were named: Dr. Morton S. Biskind, Dr. Herbert Schreier, Dr. Samuel Soskin, Dr. Oliver H. Gaebler and Dr. Walter E. Cieszewski. It seems these men are unanimous in their findings that the liver is the most important factor in the treatment of diabetes. The article states that vitamin B complex, given orally or intramuscularly for diabetic conditions, results in a "striking improvement in health and well being." It also states that "for best results, however, the treatment must include intensive and unusual nutritional therapy." Will you send me particulars on this? Does vitamin B complex mean thiamine? What, exactly, is meant by "intensive and unusual nutritional therapy" in regard to this treatment of diabetes? M. E. Marr, Dietitian, Victoria, B. C.

ANSWER.—The article in *Newsweek* for June 4 emphasizes the role of the liver in diabetes. It has long been known that the liver is of fundamental importance in carbohydrate metabolism. Its chief function is to control the level of the blood sugar. Such action is secondary to the endocrine influences of the body, chiefly those of the pancreas (insulin). In discussing these various factors Dr. Samuel Soskin (*J. Clin. Endocrinol.* **4**:75 [Feb.] 1944) says "It must be emphasized that none of these considerations minimizes the importance of insulin in therapy or suggests that any other efficacious agent is known at the present time."

In the treatment of diabetes, insulin is of prime importance. However, the effects of both vitamin B complex and thiamine (the latter is, of course, only part of the complex) have been investigated in diabetes. For adequately nourished diabetic patients whose diabetes is well controlled these substances are of no use in altering the course of the disease or reducing the insulin dosage (Freston, J. M., and Laughlin, Winifred C.: Vitamins and Diabetes, *Proc. Am. Diabetes A.* **2**:187, 1942).

Poorly nourished diabetic patients or those whose diabetes is not controlled often have vitamin B deficiency. Since the factors of the vitamin B complex do have a part in carbohydrate metabolism, treatment of such patients by adequate diet, vitamins or both often will result in better utilization of sugar and reduction of the dosage of insulin. The meaning of "intensive and unusual nutritional therapy" mentioned in the question is not known.

X-RAYS FOR HYPERHIDROSIS

To the Editor:—I have a generalized hyperhidrosis and have had all sorts of medical treatment, including x-ray therapy—all to no avail. Six years ago I had a dorsal sympathetic ramisection with relief in the upper extremities. My 5 months old daughter has a severe hyperhidrosis of the hands and feet and I have spoken to several competent dermatologists as to the advisability of x-ray therapy. Opinion is divided as to the practicability of this treatment, as it is said that this will require a dose which may impair bony development or damage the skin irreparably. I have been advised to wait until she is adolescent. However, I feel that although x-ray therapy did not help me it will work while my daughter is still young and the skin is possibly more radiosensitive. I feel that, if this condition is allowed to continue, the possibility of cure will diminish. M.D., New Jersey.

ANSWER.—The amount of x-ray therapy needed to control hyperhidrosis of the palms and soles is relatively large. The skin is probably damaged by it. When successful, there is often abnormal drying and changes more or less characteristic of a radiodermatitis. The latter may not appear until years later. This should be enough to decide against x-ray therapy. The danger of injuring the growth centers of the bones of the hand with this modality as suggested in the query in a 5 months old infant is real. There is no evidence, on the other hand, that the sweat glands of such a young subject are more sensitive to these rays than are those of older persons. Safer treatments are advised, notwithstanding their doubtful benefits.